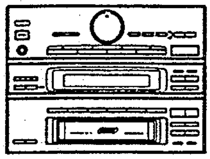
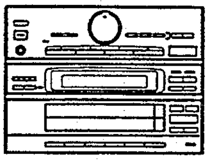
Service Manual

PIONEER
The Art of Entertainment



• XC-P410M



• XC-P410T

ORDER NO.
ARP2175

MULTI CD RECEIVER
XC-P410M
TWIN CD RECEIVER
XC-P410T

XC-P410M AND XC-P410T HAVE THE FOLLOWING :

Type	Model		Power Requirement	Remarks
	XC-P410M	XC-P410T		
KU	○	—	AC120V only	
KC	○	—	AC120V only	
HE	○	○	AC220V, 240V (switchable) *	
HB	○	○	AC220V, 240V (switchable) *	
HEWZI	○	○	AC220V, 240V (switchable) *	
YPW	—	○	AC240V only	
SD	—	○	AC110V, 120V–127V, 220V, 240V (switchable)	

* Change the position of the jumper wire of the MAIN unit.

- This manual is applicable to the XC-P410M/KU, KC, HE, HB, HEWZI, XC-P410T/HE, HB, HEWZI, YPW and SD types.
- Ce manuel pour le service comprend les explications de réglage en français.
- Este manual de servicio trata del método ajuste escrito en español.

CONTENTS

1. SAFETY INFORMATION ············ 2
2. EXPLODED VIEWS AND PARTS LIST ····· 4
3. PACKING ············ 23
4. SCHEMATIC DIAGRAMS ············ 24
5. P.C.BORDS CONNECTION DIAGRAM ····· 41
6. P.C.B's PARTS LIST ············ 69
7. DISASSEMBLY OF CD SECTION ············ 81
8. ADJUSTMENTS ············ 82
   RÉGLAGES ············ 100
   AJUSTES ············ 118
9. IC INFORMATION ············ 136
10. BLOCK DIAGRAM ············ 147
11. PANEL FACILITIES ············ 149
12. SPECIFICATIONS ············ 153

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE INC. P.O. Box 1760, Long Beach, California 90801 U.S.A.
PIONEER ELECTRONICS OF CANADA, INC. 505 Cochrane Drive, Markham, Ontario L3R 8E3 Canada
PIONEER ELECTRONIC [EUROPE] N.V. Keetberglaan 1, 2740 Beveren, Belgium
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-9911

© PIONEER ELECTRONIC CORPORATION 1991

IFI FEB. 1991 Printed in Japan

**This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.**

WARNING
**Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).
When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.**

1. SAFETY INFORMATION

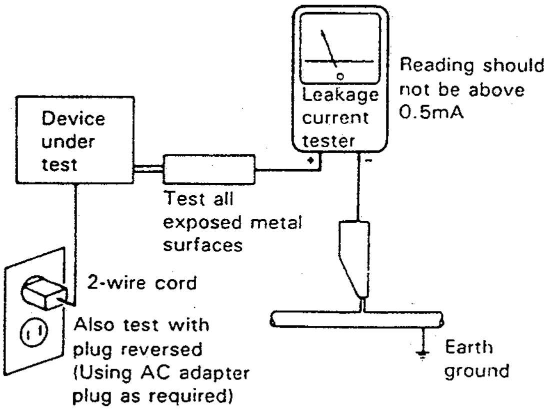
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.


Leakage current tester
Reading should not be above 0.5mA
Device under test
+
-
Test all exposed metal surfaces
2-wire cord
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

(FOR EUROPEAN MODEL ONLY)

VARO!
AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTOMÄLLE LASERSATEILYLLE. ÄLÄ KATSO SÄTEESEEN.

LASER
Kuva 1
Lasersateilyn
varoitusmerkki

WARNING!
DEVICE INCLUDES LASER DIODE WHICH EMITS INVISIBLE INFRARED RADIATION WHICH IS DANGEROUS TO EYES. THERE IS A WARNING SIGN ACCORDING TO PICTURE 1 INSIDE THE DEVICE CLOSE TO THE LASER DIODE.

LASER
Picture 1
Warning sign for
laser radiation

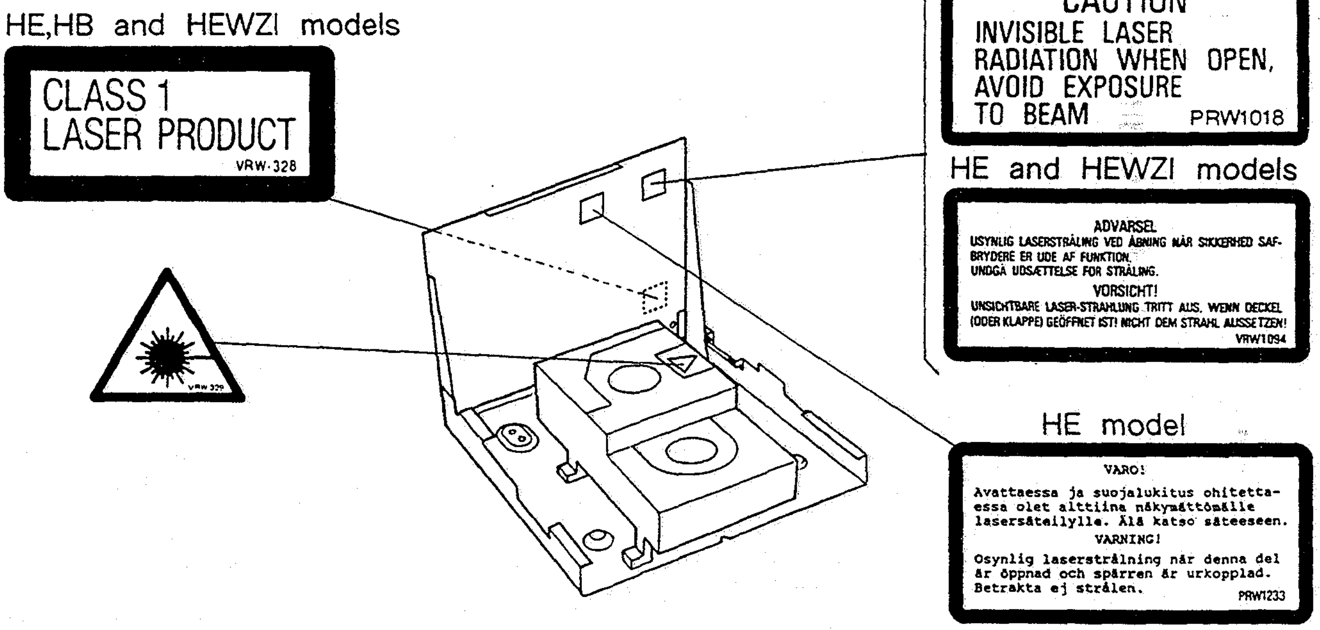
ADVERSEL:
USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSAETTELSE FOR STRÅLING.

VARNING!
OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.

IMPORTANT
THIS PIONEER APPARATUS CONTAINS LASER OF HIGHER CLASS THAN 1. SERVICING OPERATION OF THE APPARATUS SHOULD BE DONE BY A SPECIALLY INSTRUCTED PERSON.

LASER DIODE CHARACTERISTICS
MAXIMUM OUTPUT POWER: 5 mw
WAVELENGTH: 780-785 nm

LABEL CHECK



HE,HB and HEWZI models

CLASS 1
LASER PRODUCT
VRW-328

HB model

CAUTION
INVISIBLE LASER
RADIATION WHEN OPEN,
AVOID EXPOSURE
TO BEAM
PRW1018

HE and HEWZI models

ADVARSEL
USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHED SAFBRYDERE ER UDE AF FUNKTION.
UNDGÅ UDSÆTTELSE FOR STRÅLING.
VORSICHT!
UNSICHTBARE LASER-STRAHLUNG TRITT AUS, WENN DECKEL (ODER KLAPPE) GEÖFFNET IST! NICHT DEM STRAHL AUSSETZEN!
VRW1094

HE model

VARO!
Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.
VARNING!
Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.
PRW1233

XC-P410M type

Additional Laser Caution

1. Laser Interlock Mechanism
   The ON/OFF (ON : low level/OFF : high level) status of the LPS1 (S601) and LPS2 (S602) switches for detecting the loading state is detected by the system microprocessor, and the design prevents laser diode oscillation when both switches LPS1 and LPS2 are not ON (low level) (clamped state). Thus, interlock will no longer function if switches LPS1 (S601) and LPS2 (S602) are deliberately shorted. Also, in the test mode * *, the interlock mechanism does not operate too. Laser diode osillation will continue if pin 2 and pin 3 of CXA1471S (IC401) are connected to ground or pin 20 is connected to high level (ON) or the terminals of Q401 are shorted to each other (fault condition).
2. When the cover is opened with the servo mechanism block removed to be turned over, close viewing of the objective lens with the naked eye will cause exposure to a class 1 or higher laser beam.

* : See page 84.

XC-P410T type

Additional Laser Caution

1. Laser Interlock Mechanism
   The ON/OFF (ON : low level/OFF : high level) status of the U (S601) and L (S603) switches for detecting the disc clamp state is detected by the system microprocessor, and the design prevents laser diode oscillation when both switches U and L are OFF (high level). Thus, interlock will no longer function if switches U (S601) and L (S603) are deliberately shorted. Laser diode osillation will continue if pin 2 and pin 3 of CXA1471S (IC401) are connected to ground or pin 20 is connected to high level (ON) or the terminals of Q401 are shorted to each other (fault condition).
2. When the cover is opened, close viewing of the objective lens with the naked eye will cause exposure to a class 1 or higher laser beam.

2. EXPLODED VIEWS AND PARTS LIST

2.1 XC – P410M

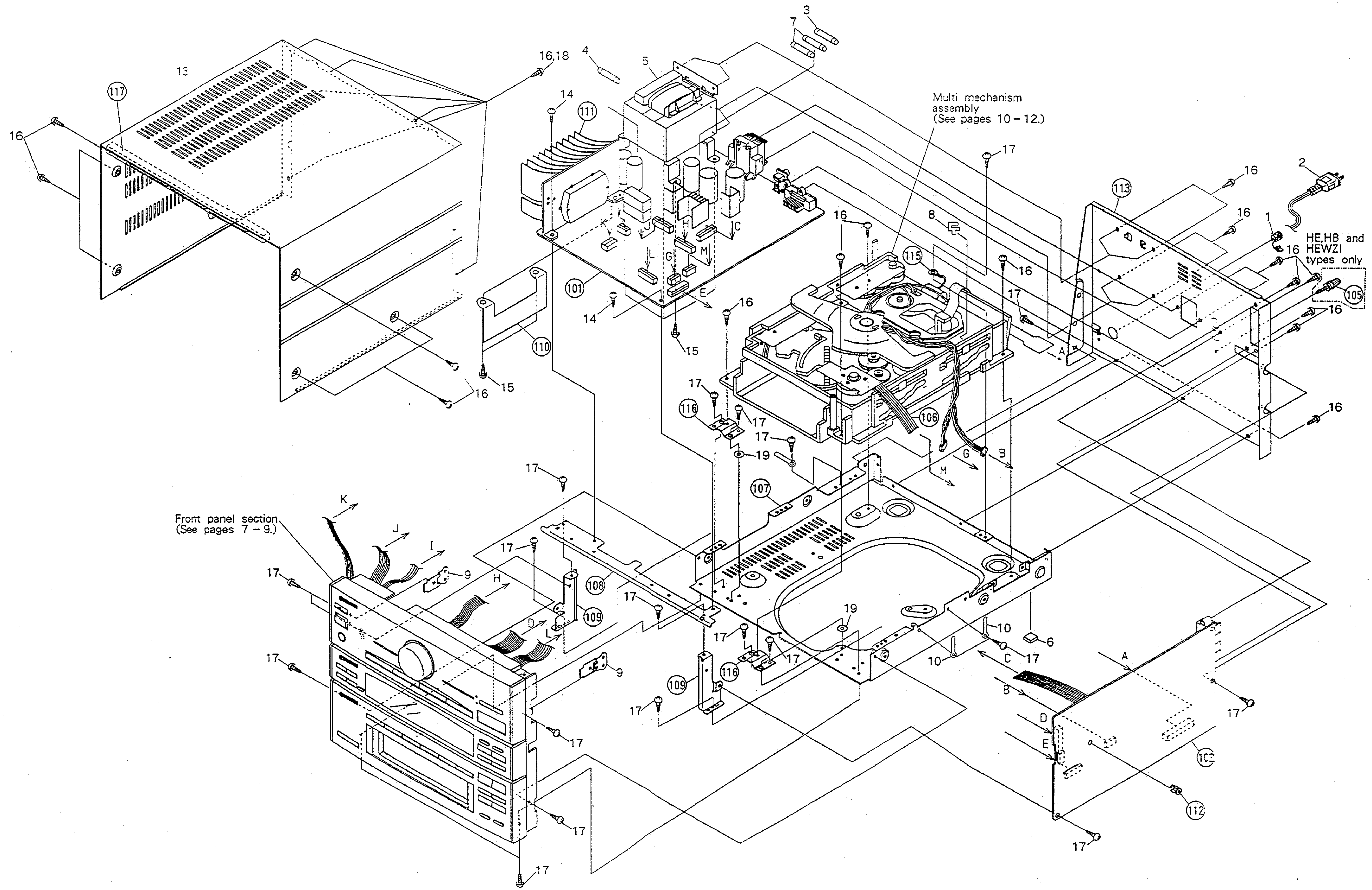
NOTES :
- Parts without part number cannot be supplied.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

2.1.1 Exterior

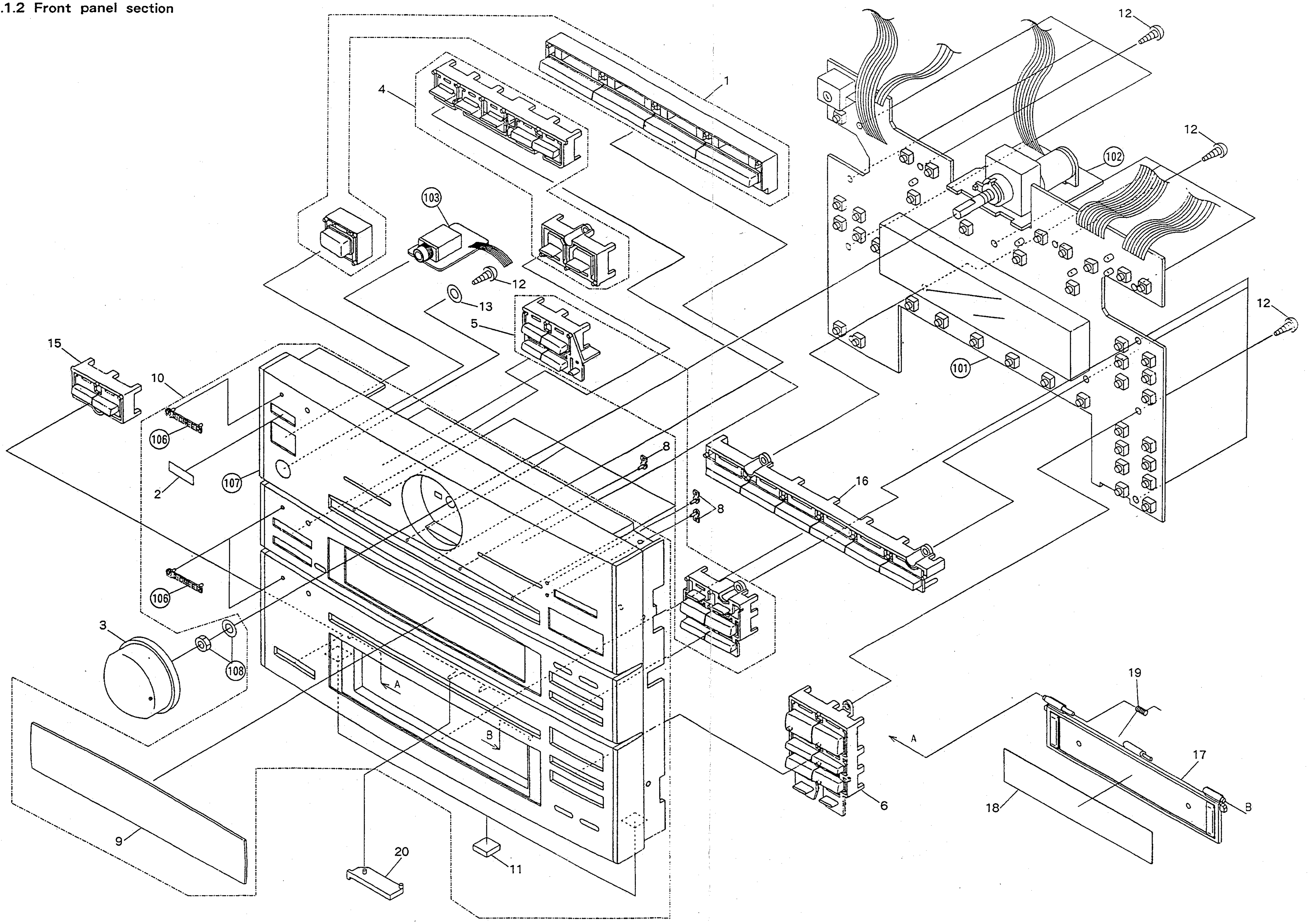
Parts List

Mark	No.	Part No.	Description
⚠	1	CM-22B	Strain relief (HE,HB and HEWZI types only)
⚠	1	CM-22C	Strain relief (KU and KC types only)
⚠	2	PDG1003	AC power cord (HE and HEWZI types only)
⚠	2	PDG1036	AC power cord (HB type only)
⚠	2	PDG1015	AC power cord (KU and KC types only)
⚠	3	REK-102	Fuse (FU103) (T1.6A) (HE,HB and HEWZI types only)
⚠	3	REK-081	Fuse (FU103) (2A) (KU and KC types only)
⚠	4	REK-099	Fuse (FU104) (T800mA) (HE,HB and HEWZI types only)
⚠	4	REK-081	Fuse (FU104) (2A) (KU and KC types only)
⚠	5	RTT1148	Power transformer (AC220,240V) (HE,HB and HEWZI types only)
⚠	5	RTT1151	Power transformer (AC120V) (KU type only)
⚠	5	RTT1149	Power transformer (AC120V) (KC type only)
	6	REB1004	Stopper
⚠	7	REK-100	Fuse (FU101,102) (T1A) (HE,HB and HEWZI types only)
⚠	7	REK-073	Fuse (FU101,102) (1.25A) (KU and KC types only)
	8	REC1088	Flexible stopper M
	9	RNE1085	Stay T
	10	RNH-184	Cord stopper

Mark	No.	Part No.	Description
	11		• • • • •
	12		• • • • •
	13	RXX1353	Bonnet
	14	BBZ30P100FMC	Screw
	15	BBZ30P080FMC	Screw
	16	BBZ30P080FZK	Screw
	17	BBZ30P060FMC	Screw
	18	BBZ30T080FZK	Screw (HB type only)
	19	WA40F080M050	Washer
	101		MAIN unit
	102		CDTX unit
	103		• • • • •
	104		• • • • •
	105		Terminal (GND) (HE,HB and HEWZI types only)
	106		2mm pitch connector (J203)
	107		Chassis
	108		Stay
	109		Angle
	110		Bracket
	111		Heat sink
	112		PC support B
	113		Rear panel
	114		• • • • •
	115		Earth lead unit
	116		Mechanism support base
	117		Cushion


13
117
16
16,18
4
5
3
7
14
111
Multi mechanism assembly (See pages 10 – 12.)
17
16
2
113
16
1
16
HE,HB and HEWZI types only
105
8
115
16
17
16
K
J
H
C
L
G
M
E
101
14
16
15
110
15
16
17
116
17
106
17
19
G
B
M
107
17
Front panel section (See pages 7 – 9.)
K
J
I
17
9
H
108
109
17
D
L
19
10
6
17
C
10
A
17
9
116
17
109
17
B
D
E
102
17
112
17
17
17
17

2.1.2 Front panel section


1
4
103
12
13
5
15
10
106
2
107
8
8
106
3
108
9
20
11
A
B
16
12
102
12
101
12
6
A
19
17
18
B

Parts List

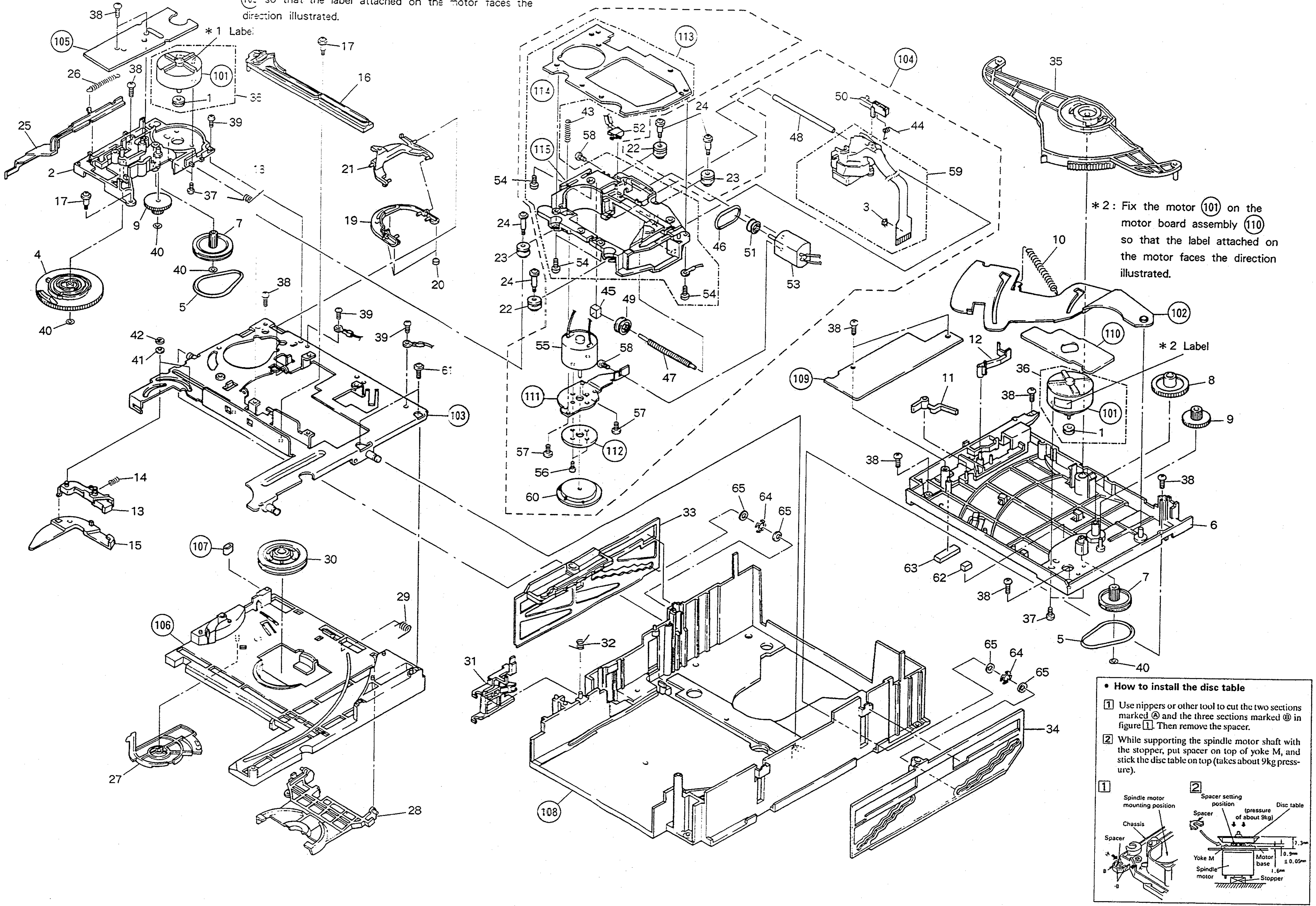
Mark	No.	Part No.	Description
	1	AAD1963	Function button (HE,HB and HEWZI types only)
	1	AAD1966	Function button (KU and KC types only)
	2	AAK2010	Remote control window filter
	3	RAC1566	VR knob
	4	RAC1580	Function knob A
	5	RAC1581	Function knob B
	6	RAC1584	Play knob M
	7		• • • • •
	8	RNK1591	Indicator lens
	9	RAH1805	FL panel
	10	RXX1356	Front panel assembly-S
	11	REB1004	Stopper
	12	BBZ26P100FMC	Screw
	13	WA30F150M080	Washer
	14		• • • • •
	15	RAC1582	Random knob
	16	RAC1583	Disc knob
	17	RNK1692	Door
	18	RAH1800	Door name plate
	19	PBH1022	Door spring
	20	RNK1734	Door stopper

Mark	No.	Part No.	Description
	101		FRNT unit
	102		MVOL unit
	103		H.PHONE unit
	104		• • • • •
	105		• • • • •
	106		PIONEER badge
	107		Front panel
	108		Attachment of MVOL unit

2.1.3 Multi mechanism assembly

Parts List

Mark	No.	Part No.	Description
	1	PNW1634	Motor pulley
	2	PNW1929	Gear holder
	3	PCP1008	Semi-fixed resistor (VR1)
	4	PNW1923	Cam gear
	5	PEB1138	Belt
	6	PNW1914	Top guide
	7	PNW1918	Gear pulley
	8	PNW1919	Gear S
	9	PNW1920	Gear L
	10	PBH1107	Eject spring
	11	PNW1927	Switch lever
	12	PNW1931	Seven bar
	13	PNW1933	Sub rotary lever
	14	PBH1111	Sub rotary lever spring
	15	PNW1932	Rotary lever
	16	PNW1930	Drive plate
	17	PBA-112	Motor screw
	18	PBH1110	Holder lever spring
	19	PNW1924	Disc holder
	20	PED1001	Cushion A
	21	PNW1925	Holder lever
	22	PEB1014	Float rubber
	23	PEB1132	Float rubber
	24	PBA1055	Float screw
	25	PNW1934	Release lever
	26	PBH1106	Release spring
	27	PNW1922	Clamper cam
	28	PNW1921	Clamper holder
	29	PBH1109	Clamper spring
	30	PNW1857	Clamper
	31	PNW1917	Lock lever
	32	PBH1108	Lock spring
	33	PNW1915	Stair L
	34	PNW1916	Stair R
	35	PNW1926	Synchronize lever
	36	PEA1130	Motor assembly (LOADING, DISC SELECT)
	37	PMZ26P040FMC	Screw
	38	PPZ30P080FMC	Screw
	39	BBZ30P060FMC	Screw
	40	WT26D047D025	Washer
	41	WA31D054D025	Washer
	42	Z39-010	E ring
	43	PBH1009	Earth spring
	44	PBH1084	Drive spring
	45	PBK1057	Plate spring
	46	PEB1072	Belt
	47	PLA1003	Drive screw
	48	PLA1071	Guide bar
	49	PNW1066	Pulley
	50	PNW1605	Half nut
	51		• • • • • •
	52	DSG1014	Push switch (INSIDE)
	53	PXM1013	D.C.motor (CARRIAGE)
	54	PBZ30P080FMC	Screw
	55	PEA1028	D.C.motor assembly (with oil) (SPINDLE)
	56	JFZ20P040FMC	Screw
	57	BPZ20P080FZK	Screw
	58	PMZ20P030FMC	Screw
	59	PEA1030	Pickup assembly
	60	PEA1035	Disc table assembly
	61	IPZ30P080FMC	Screw
	62	PEB1178	Rubber spacer
	63	PEB1179	Rubber spacer
	64	PBK1093	Silent ring
	65	WA62D130D025	Washer
	101		Motor
	102		Eject lever
	103		Upper chassis
	104		Servo mechanism assembly M
	105		Mechanism board assembly
	106		Sub chassis
	107		Rubber tube
	108		Main chassis
	109		Select board assembly
	110		Motor board assembly
	111		Motor base
	112		Yoke M
	113		Mechanism base assembly T
	114		Mechanism base
	115		Mechanism chassis


38
105
*1 Label
101
1
36
38
26
25
39
2
17
37
18
9
40
7
4
40
5
40
16
17
21
19
20
38
42
41
39
39
61
103
14
13
15
107
30
29
106
27
28
113
114
115
43
52
58
24
22
23
54
24
23
24
54
22
54
45
49
55
58
47
111
57
112
57
56
60
104
50
44
48
59
3
46
51
53
35
10
102
110
*2 Label
38
109
12
11
36
101
1
8
9
38
38
6
63
62
38
7
37
5
40
33
65
64
65
31
32
108
65
64
65
34

*1 : Fix the motor ⓵⓪⓵ on the mechanism board assembly (105) so that the label attached on the motor faces the direction illustrated.

*2 : Fix the motor (101) on the motor board assembly (110) so that the label attached on the motor faces the direction illustrated.

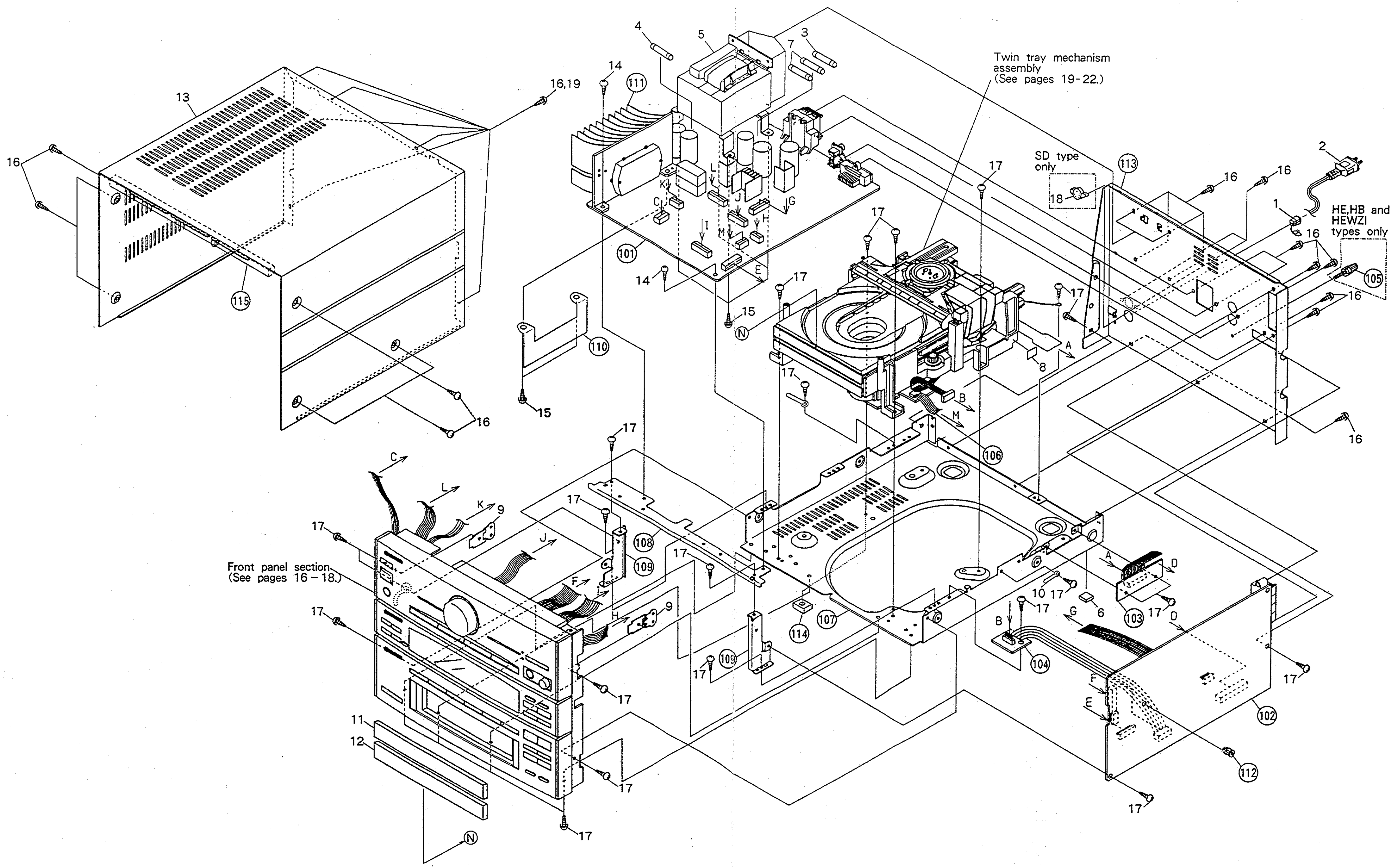
- **How to install the disc table**

1. Use nippers or other tool to cut the two sections marked Ⓐ and the three sections marked Ⓑ in figure 1. Then remove the spacer.
2. While supporting the spindle motor shaft with the stopper, put spacer on top of yoke M, and stick the disc table on top (takes about 9kg pressure).

1
Spindle motor mounting position
Chassis
Spacer
A
B
A
B
2
Spacer setting position
Spacer
(pressure of about 9kg)
Disc table
7.3mm
Yoke M
Motor base
0.9mm ± 0.05mm
1.6mm
Spindle motor
Stopper

2.2 XC-P410T

2.2.1 Exterior


Twin tray mechanism assembly
(See pages 19-22.)
SD type only
HE,HB and HEWZI types only
Front panel section
(See pages 16 – 18.)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
16,19
17
18
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
N
A
B
C
D
E
F
G
H
I
J
K
L
M

Parts List

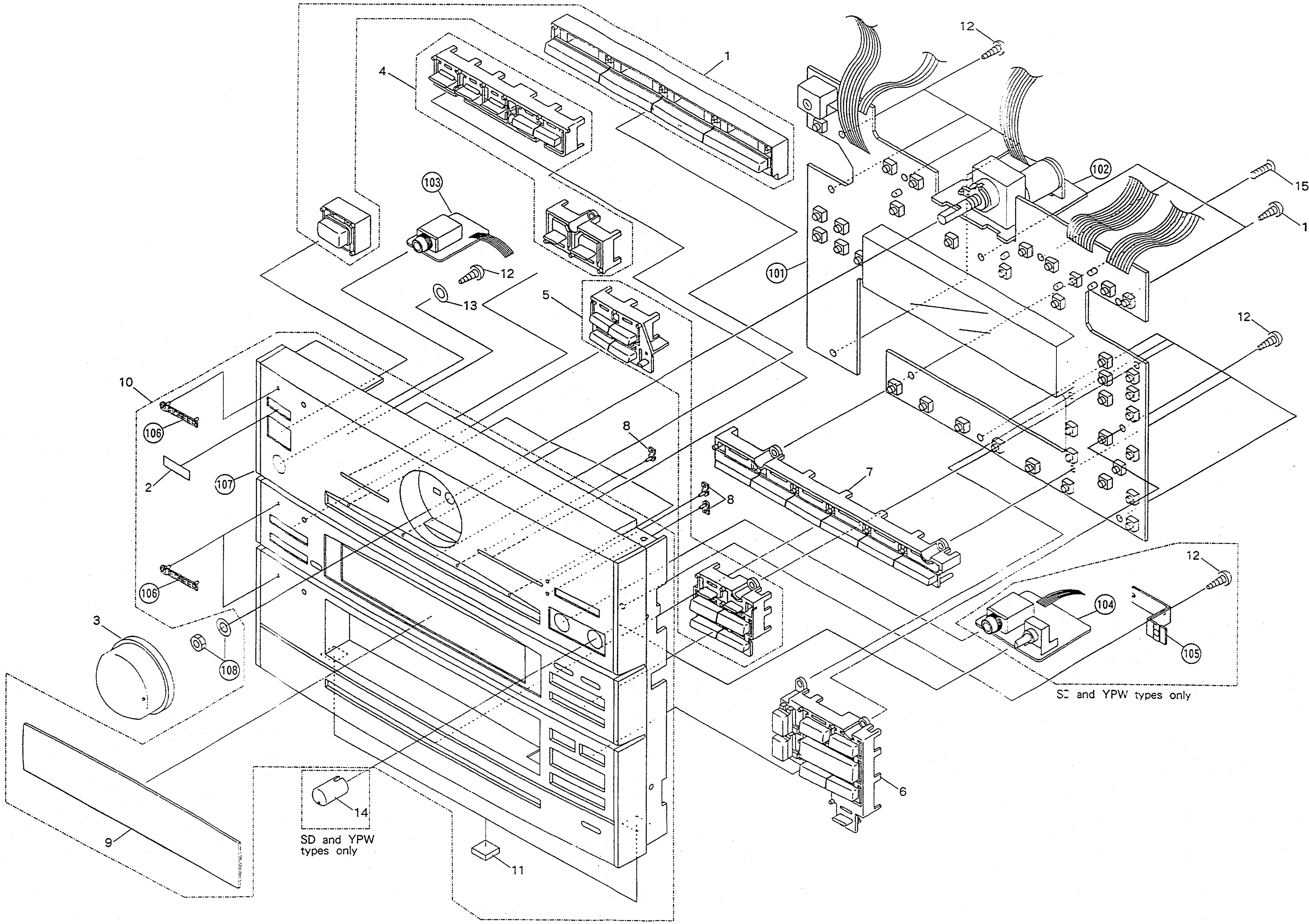
Mark	No.	Part No.	Description
⚠	1	CM-22B	Strain relief
⚠	2	PDG1003	AC power cord (HE and HEWZI types only)
⚠	2	PDG1036	AC power cord (HB type only)
⚠	2	PDG1013	AC power cord (SD type only)
⚠	2	PDG1006	AC power cord (YPW type only)
⚠	3	REK-102	Fuse (FU103) (T1.6A)
⚠	4	REK-099	Fuse (FU104) (T800mA) (HE,HB,HEWZI and YPW types only)
⚠	4	REK-102	Fuse (FU104) (T1.6A) (SD type only)
⚠	5	RTT1148	Power transformer (AC220,240V) (HE,HB,HEWZI and YPW types only)
⚠	5	RTT1150	Power transformer (AC110,120-127,220,240V) (SD type only)
	6	REB1004	Stopper
⚠	7	REK-100	Fuse (FU101,102) (T1A)
	8	REC1085	Flexible stopper T
	9	RNE1085	Stay T
	10	RNH-184	Cord stopper
	11	PNW1945	Tray name plate 1
	12	PNW1946	Tray name plate 2
	13	RXX1353	Bonnet
	14	BBZ30P100FMC	Screw
	15	BBZ30P080FMC	Screw
	16	BBZ30P080FZK	Screw
	17	BBZ30P060FMC	Screw
⚠	18	PSB1002	Voltage selector (SD type only)
	19	BBZ30T080FZK	Screw (HB type only)

Mark	No.	Part No.	Description
	101		MAIN unit
	102		CDTX unit
	103		FCON unit
	104		MCON unit
	105		Terminal (GND) (HE,HB and HEWZI types only)
	106		2mm pitch connector (J203)
	107		Chassis
	108		Stay
	109		Angle
	110		Bracket
	111		Heat sink
	112		PC support B
	113		Rear panel
	114		Spacer
	115		Cushion

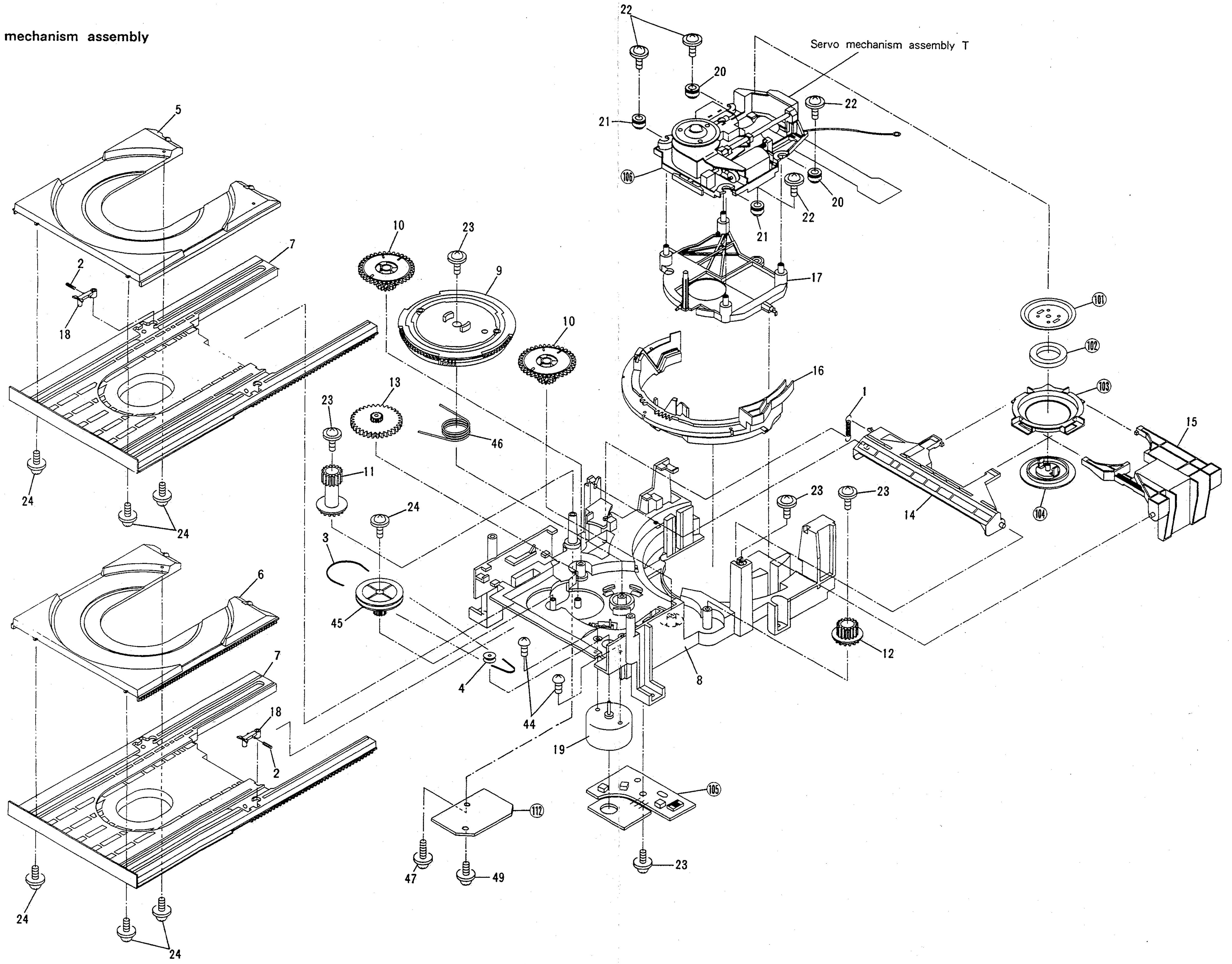
2.2.2 Front panel section

Parts List

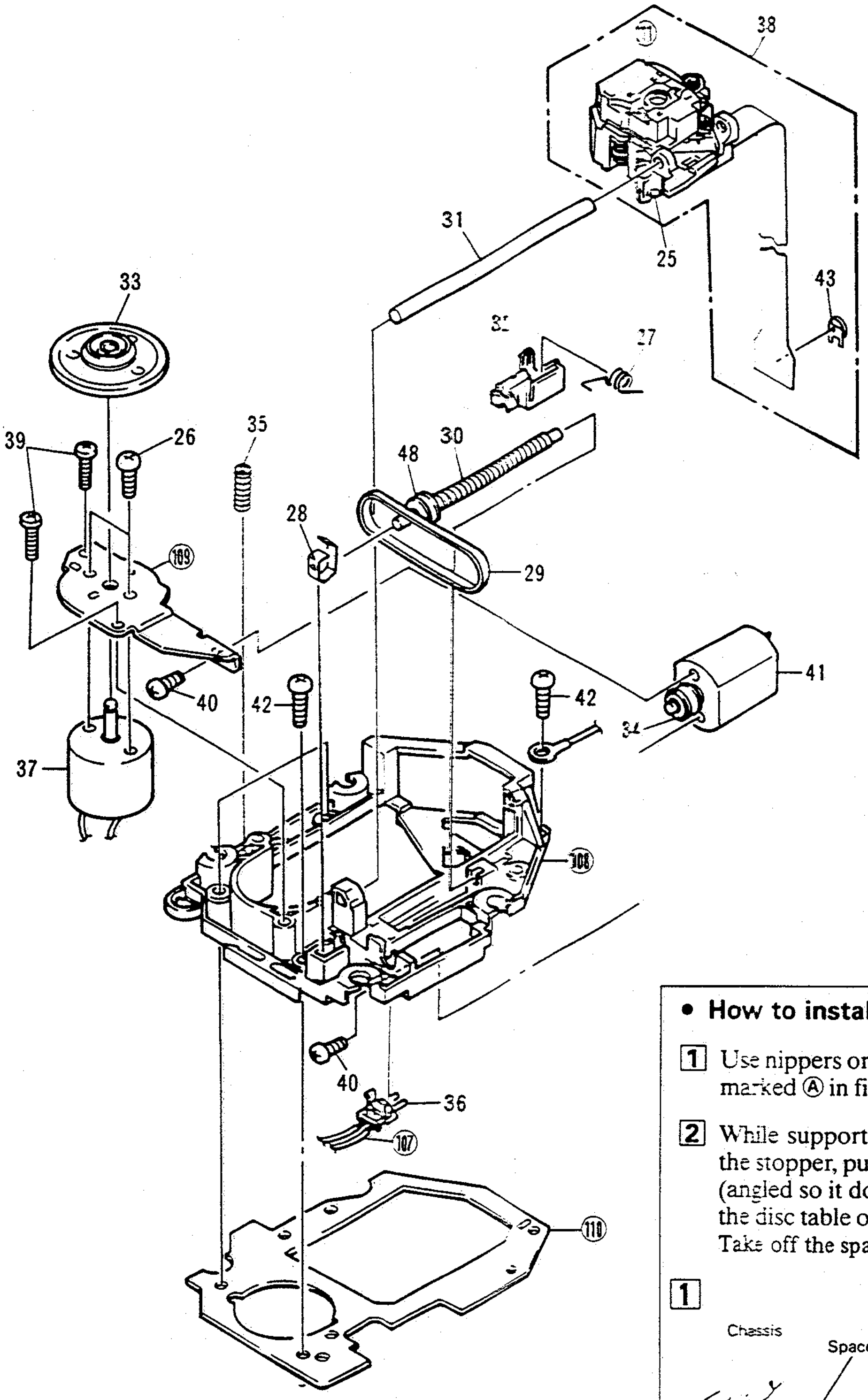
Mark	No.	Part No.	Description
	1	AAD1963	Function button (HE,HB and HEWZI types only)
	1	AAD1966	Function button (SD and YPW types only)
	2	AAK2010	Remote control window filter
	3	RAC1566	VR knob
	4	RAC1580	Function knob A
	5	RAC1581	Function knob B
	6	RAC1585	Play knob T
	7	RAC1586	Stop knob
	8	RNK1591	Indicator lens
	9	RAH1805	FL panel
	10	RXX1357	Front panel assembly-S (HE,HB and HEWZI types only)
	10	RXX1354	Front panel assembly-S (SD and YPW types only)
	11	REB1004	Stopper
	12	BBZ26P100FMC	Screw
	13	WA30F150M080	Washer
	14	AAB1219	Knob (SD and YPW types only)
	15	CPZ26P100FZK	Screw
	101		FRNT unit
	102		MVOL unit
	103		H.PHONE unit
	104		MIC unit (SD and YPW types only)
	105		Jack holder (SD and YPW types only)
	106		PIONEER badge
	107		Front panel
	108		Attachment of MVOL unit


SD and YPW types only
SD and YPW types only

2.2.3 Twin-tray mechanism assembly

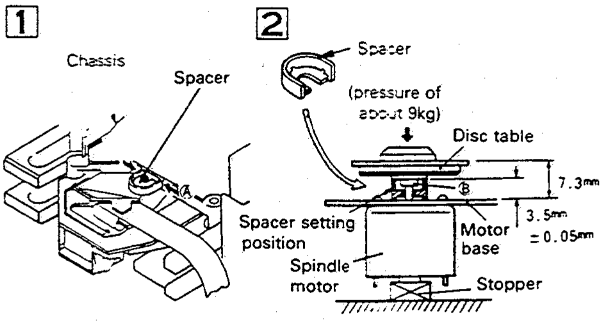

Servo mechanism assembly T
22
22
20
21
(106)
22
20
21
22
17
5
7
2
18
10
23
9
10
13
23
11
46
16
1
(101)
(102)
(103)
15
14
23
23
(104)
24
24
24
24
3
45
6
7
18
2
4
44
8
12
19
(105)
(112)
47
49
23
24
24
24

• Servo mechanism assembly T


38
31
25
43
33
32
27
39
26
35
30
48
28
29
109
41
40
42
42
34
37
108
40
36
107
110

• How to install the disc table

1. Use nippers or other tool to cut the two sections marked Ⓐ in figure 1. Then remove the spacer.
2. While supporting the spindle motor shaft with the stopper, put spacer on top of the motor base (angled so it doesn't touch section Ⓑ), and stick the disc table on top (takes about 9kg pressure). Take off the spacer.


1
Chassis
Spacer
Ⓐ
Spacer setting position
2
Spacer
(pressure of about 9kg)
Disc table
Ⓑ
7.3mm
3.5mm ± 0.05mm
Motor base
Spindle motor
Stopper

Parts List

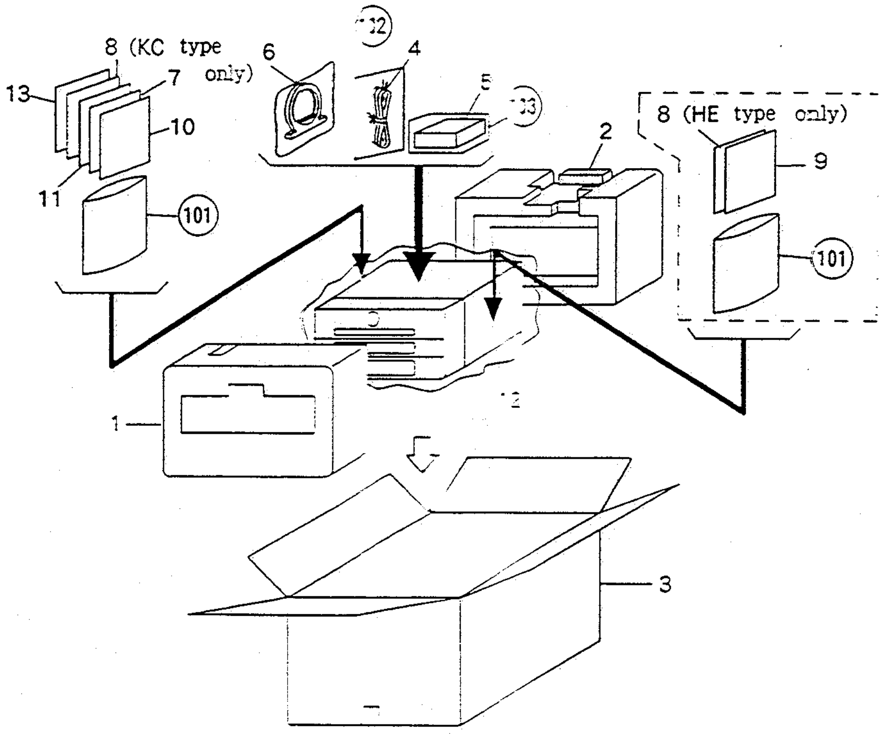
Mark	No.	Part No.	Description
	1	PBH1103	Clamp spring
	2	PBH1104	Lever spring
	3	PEB1106	Belt
	4	PNW1634	Motor pulley
	5	PNW1986	Tray 1
	6	PNW1987	Tray 2
	7	PNW1985	Sub tray
	8	PNW1842	Loading base
	9	PNW1843	Main cam
	10	PNW1844	Follow gear
	11	PNW1845	Gear 1
	12	PNW1846	Gear 2
	13	PNW1847	Idler gear
	14	PNW1850	Clamper arm U
	15	PNW1851	Clamper arm B
	16	PNW1852	Clamp cam
	17	PNW1853	Float base
	18	PNW1854	Lock lever
	19	PXM1010	D.C.Motor (DISC SELECT)
	20	PEB1014	Floating rubber
	21	PEB1132	Floating rubber
	22	PBA1048	Screw
	23	IPZ30P080FMC	Screw
	24	IPZ20P080FMC	Screw
	25	CKSYF105Z16	Chip capacitor (C1001)
	26	JFZ20P025FMC	Screw
	27	PBH1084	Drive spring
	28	PBK1057	Plate spring
	29	PEB1072	Belt
	30	PLA1003	Drive screw
	31	PLA1071	Guide bar
	32	PNW1605	Half nut
	33	PNW1608	Disc table
	34	PNW1634	Motor pulley
	35	PBH1009	Earth spring
	36	DSG1014	Push switch (INSIDE)
	37	PEA1028	D.C.motor assembly (with oil) (SPINDLE)
	38	PEA1030	Pickup assembly
	39	BPZ20P080FZK	Screw
	40	PMZ20P030FMC	Screw
	41	PXM1013	D.C.motor (CARRIAGE)
	42	PBZ30P080FMC	Screw
	43	PCP1008	Semi-fixed resistor (VR1)
	44	PMZ26P040FMC	Screw
	45	PNW1848	Gear pulley
	46	PBH1105	Push spring
	47	IPZ30P200FMC	Screw
	48	PNW1066	Pulley
	49	IPZ30P120FMC	Screw

Mark	No.	Part No.	Description
	101		Yoke
	102		Magnet
	103		Clamper holder
	104		Clamper S
	105		Mechanism board assembly
	106		Servo mechanism assembly T
	107		Connector assembly (6P)
	108		Mechanism chassis
	109		Motor base
	110		Mechanism base
	111		Actuator cover
	112		Sub panel base

3. PACKING

Parts List

Mark	No.	Part No.	Description
	1	RHA1062	Pad F (XC-P410M type)
	1	RHA1066	Pad F (XC-P410T type)
	2	RHA1063	Pad R
	3	RHG1252	Packing case (XC-P410M/HE,HB and HEWZI types)
	3	RHG1253	Packing case (XC-P410M/KU and KC types)
	3	RHG1231	Packing case (XC-P410T type)
	4	ADH1005	FM antenna (XC-P410M/KU,KC, XC-P410T SD and YPW types)
	4	ADH1002	FM antenna assembly (XC-P410M/HE,HB,HEWZI, XC-P410T HE,HB and HEWZI types)
	5	PXA1308	Magazine assembly (XC-P410M type)
	6	RTB1001	Loop antenna assembly
	7	RRB1089	Operating instructions (English) (XC-P410M/KU,KC,HE and HB types)
	7	RRB1090	Operating instructions (English) (XC-P410T/HE,HB,SD and YPW types)
	8	RRD1101	Operating instructions (French) (XC-P410M/KC,HE and XC-P410T/HE types)
	9	RRD1102	Operating instructions (Swedish/Spanish/Portuguese) (XC-P410M/HE and XC-P410T/HE types)
	10	RRD1103	Operating instructions (German/Italian/Dutch) (XC-P410M/HE,HEWZI, XC-P410T/HE and HEWZI types)
	11	RRD1111	Operating instructions (Spanish) (XC-P410T/SD type)
	12	RHC1021	Packing sheet
	13	RRR1002	Operating instructions (XC-P410T type)
	101		Polyethylene bag
	102		Polyethylene bag
	103		Polyethylene bag



4. SCHEMATIC DIAGRAMS

1. RESISTORS :
   Indicated in Ω, 1/4W, 1/6W and 1/8W, ±5% tolerance unless otherwise noted k ; kΩ, M ; MΩ, (F) ; ±1%, (G) ; ±2%, (K) ; ±10%, (M) ; ±20% tolerance.

2. CAPACITORS :
   Indicated in capacity (μF) / voltage (V) unless otherwise noted p ; pF. Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE, CURRENT :
   ▭ ; DC voltage (V) at play state.
   ⇐mA ; DC current at play state.
   Value in ( ) is DC current at stop state.

4. OTHERS :
   ➡ ; Signal route.
   ⊘ ; Adjusting point.
   The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
   ※ marked capacitors and resistors have parts numbers.

   This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

5. SWITCHES : (The underlined indicates the switch position)

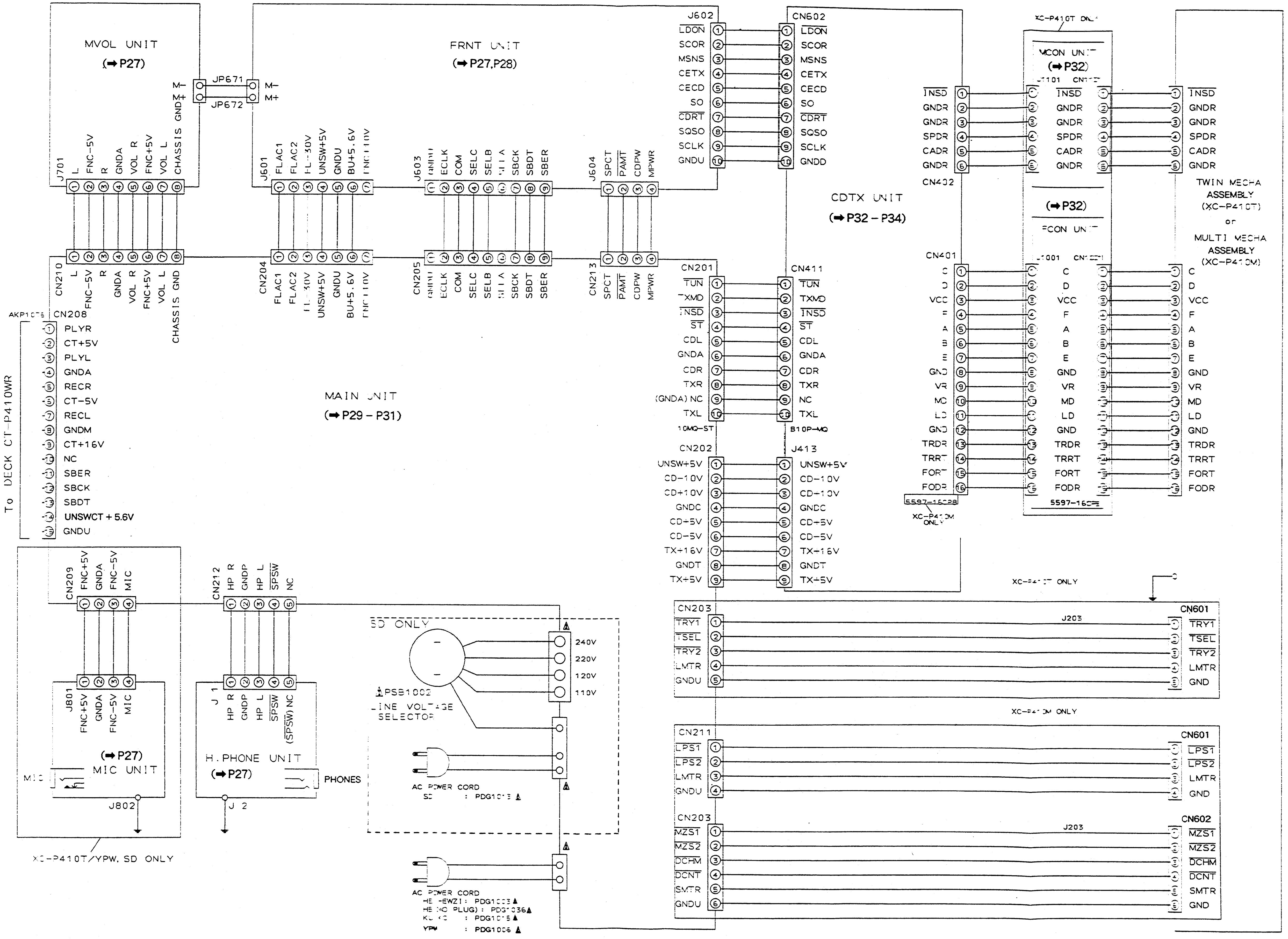
● XC-P410M

- LOADING BOARD ASSEMBLY
  - S601 : LPS (1)
  - S602 : LPS (2)
- SELECT BOARD ASSEMBLY
  - S603 : MZS (1)
  - S604 : MZS (2)
  - S605 : DCHM
  - S606 : DCNT
- FRNT UNIT
  - S601 : HI-LITE SCAN
  - S602 : RANDOM
  - S603 : STOP
  - S604 : FREQ/ST.
  - S605 : BAND
  - S606 : TUNER (DOWN)
  - S607 : HALL
  - S608 : MODE
  - S609 : B.G.M.
  - S610 : WAKE UP — TIMER
  - S611 : REC ——— TIMER
  - S612 : REPEAT
  - S614 : PAUSE
  - S615 : AM-NR/FM-MONO
  - S616 : MEMORY (AUTO PRESET)
  - S617 : TUNER (UP)
  - S618 : DISCO
  - S619 : SFC CLEAR
  - S620 : PHONO (HE,HB and HEWZI types)
  - S620 : VIDEO (KU and KC types)
  - S621 : DISPLAY
  - S623 : ⏮ — SEARCH
  - S624 : ⏭ — SEARCH
  - S625 : PLAY
  - S626 : DISC 1
  - S627 : DISC 2
  - S628 : DISC 3
  - S629 : TUNER
  - S630 : CD
  - S631 : POWER
  - S632 : TIMER SET
  - S635 : PROGRAM
  - S636 : EJECT
  - S638 : DISC 4
  - S639 : DISC 5
  - S640 : TAPE
  - S641 : MEMORY —— SMART OPERATION
  - S642 : START/SET — SMART OPERATION
  - S643 : CLOCK ADJ.
  - S644 : DISC 6

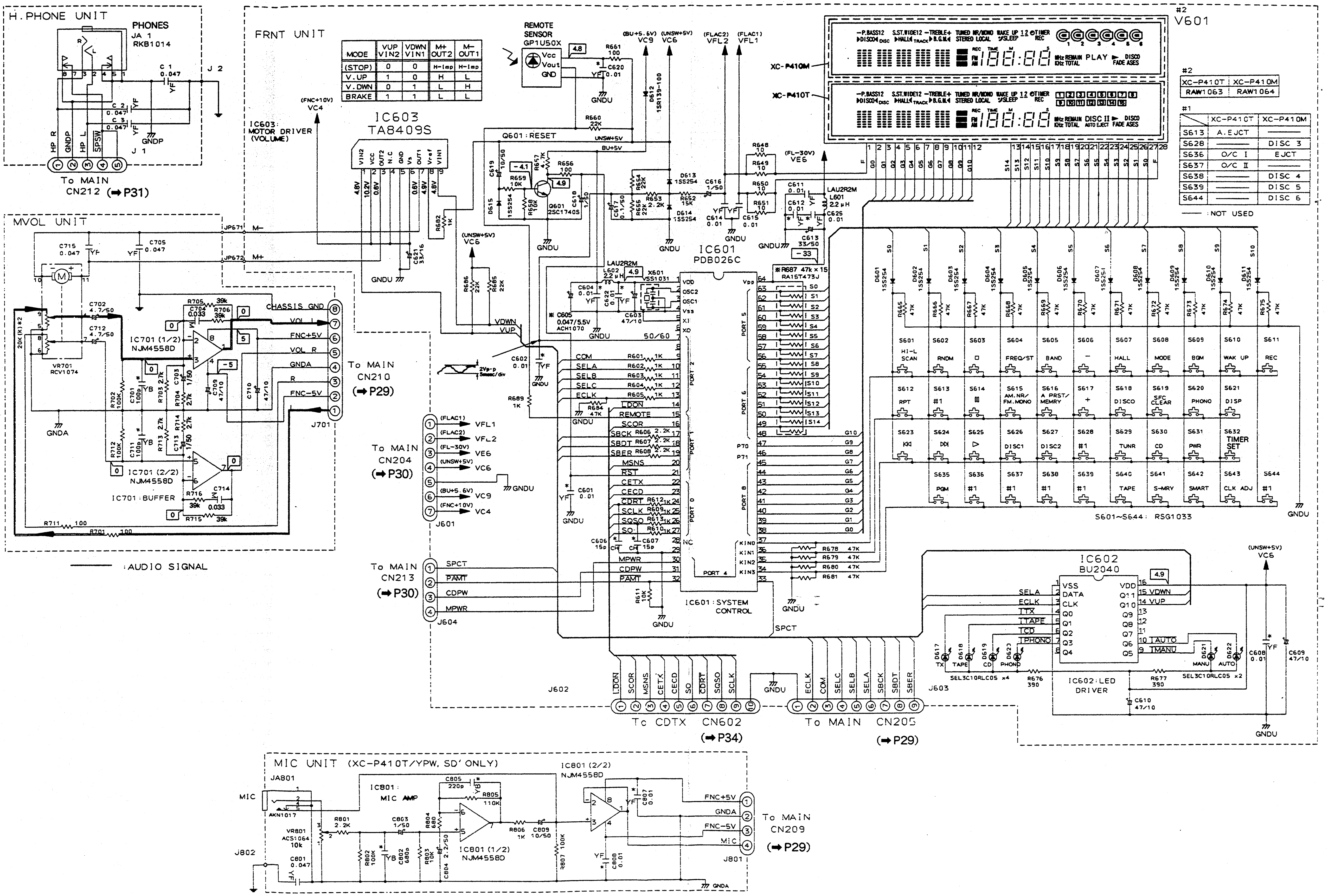
● XC-P410T

- MECHANISM BOARD ASSEMBLY
  - S601 : TRY (1)
  - S602 : TSEL
  - S603 : TRY (2)
- CDTX UNIT
  - S301 : CHNNEL STEP (SD type only)
- FRNT UNIT
  - S601 : HI-LITE SCAN
  - S602 : RANDOM
  - S603 : STOP
  - S604 : FREQ/ST.
  - S605 : BAND
  - S606 : TUNER (DOWN)
  - S607 : HALL
  - S608 : MODE
  - S609 : B.G.M.
  - S610 : WAKE UP — TIMER
  - S611 : REC ——— TIMER
  - S612 : REPEAT
  - S613 : AUTO EJECT
  - S614 : PAUSE
  - S615 : AM-NR/FM-MONO
  - S616 : MEMORY (AUTO PRESET)
  - S617 : TUNER (UP)
  - S618 : DISC
  - S619 : SFC CLEAR
  - S620 : PHONO (HE,HB and HEWZI types)
  - S620 : VIDEO (SD and YPW types)
  - S621 : DISPLAY
  - S623 : ⏮ — SEARCH
  - S624 : ⏭ — SEARCH
  - S625 : PLAY
  - S626 : DISC 1
  - S627 : DISC 2
  - S629 : TUNER
  - S630 : CD
  - S631 : POWER
  - S632 : TIMER SET
  - S635 : PROGRAM
  - S636 : OPEN/CLOSE (DISC 1)
  - S637 : OPEN/CLOSE (DISC 2)
  - S640 : TAPE
  - S641 : MEMORY —— SMART OPERATION
  - S642 : START/SET — SMART OPERATION
  - S643 : CLOCK ADJ.

4.1 OVERALL WIRING DIAGRAM


MVOL UNIT
(➡P27)
FRNT UNIT
(➡P27,P28)
MAIN UNIT
(➡P29 – P31)
CDTX UNIT
(➡P32 – P34)
MCON UNIT
(➡P32)
FCON UNIT
(➡P32)
XC-P410T ONLY
XC-P410M ONLY
TWIN MECHA ASSEMBLY (XC-P410T)
or
MULTI MECHA ASSEMBLY (XC-P410M)
JP671
JP672
M–
M+
J701
CN210
J601
CN204
J603
CN205
J604
CN213
J602
CN602
CN201
CN411
CN202
J413
CN402
CN401
CN208
AKP1075
To DECK CT-P410WR
CN209
J801
CN212
J1
J2
J802
(➡P27)
MIC UNIT
MIC
H.PHONE UNIT
(➡P27)
PHONES
XC-P410T/YPW, SD ONLY
SD ONLY
240V
220V
120V
110V
PSB1002
LINE VOLTAGE SELECTOR
AC POWER CORD
SD : PDG1013
AC POWER CORD
HE (EWZ1) : PDG1003
HE (NO PLUG) : PDG1036
KU KC : PDG1015
YPW : PDG1006
CN203
CN601
J203
CN211
CN602
10MQ-ST
B10P-MQ
5597-16CPB
L, FNC-5V, R, GNDA, VOL R, FNC+5V, VOL L, CHASSIS GND
FLAC1, FLAC2, FL-30V, UNSW+5V, GNDU, BU+5.6V, FNC+10V
GNDU, ECLK, COM, SELC, SELB, SELA, SBCK, SBDT, SBER
SPCT, PAMT, CDPW, MPWR
LDON, SCOR, MSNS, CETX, CECD, SO, CDRT, SQSO, SCLK, GNDU/GNDD
TUN, TXMD, INSD, ST, CDL, GNDA, CDR, TXR, (GNDA) NC, TXL
UNSW+5V, CD-10V, CD+10V, GNDC, CD-5V, CD-5V, TX+16V, GNDT, TX+5V
INSD, GNDR, GNDR, SPDR, CADR, GNDR
C, D, VCC, F, A, B, E, GND, VR, MD, LD, GND, TRDR, TRRT, FORT, FODR
PLYR, CT+5V, PLYL, GNDA, RECR, CT-5V, RECL, GNDM, CT+16V, NC, SBER, SBCK, SBDT, UNSWCT + 5.6V, GNDU
FNC+5V, GNDA, FNC-5V, MIC
HP R, GNDP, HP L, SPSW, NC
TRY1, TSEL, TRY2, LMTR, GNDU/GND
LPS1, LPS2, LMTR, GNDU/GND
MZS1, MZS2, DCHM, DCNT, SMTR, GNDU/GND
1 2 3 4 5 6
A B C D

4.2 H.PHONE, MVOL, FRNT AND MIC UNITS


H.PHONE UNIT
PHONES
JA 1
RKB1014
J 2
J 1
To MAIN
CN212 (➡P31)
MVOL UNIT
VR701
RCV1074
IC701 (1/2)
NJM4558D
IC701 (2/2)
NJM4558D
IC701 : BUFFER
CHASSIS GND
VOL L
FNC+5V
VOL R
GNDA
R
FNC–5V
J701
To MAIN
CN210
(➡P29)
GNDA
———— : AUDIO SIGNAL
FRNT UNIT
IC603 : MOTOR DRIVER (VOLUME)
IC603
TA8409S
REMOTE SENSOR
GP1U50X
Q601 : RESET
Q601
2SC1740S
IC601
PDB026C
IC601 : SYSTEM CONTROL
To MAIN
CN204
(➡P30)
J601
To MAIN
CN213
(➡P30)
J604
SPCT
PAMT
CDPW
MPWR
#2
V601
XC-P410M
XC-P410T
S601~S644 : RSG1033
IC602
BU2040
IC602 : LED DRIVER
SEL3C10RLC05 ×4
SEL3C10RLC05 ×2
J602
To CDTX CN602
(➡P34)
J603
To MAIN CN205
(➡P29)
GNDU
MIC UNIT (XC-P410T/YPW, SD' ONLY)
JA801
MIC
AKN1017
VR801
ACS1064
10k
IC801 : MIC AMP
IC801 (1/2)
NJM4558D
IC801 (2/2)
NJM4558D
J801
J802
To MAIN
CN209
(➡P29)

MODE	VUP VIN2	VDWN VIN1	M+ OUT2	M– OUT1
(STOP)	0	0	H-Imp	H-Imp
V.UP	1	0	H	L
V.DWN	0	1	L	H
BRAKE	1	1	L	L

#2

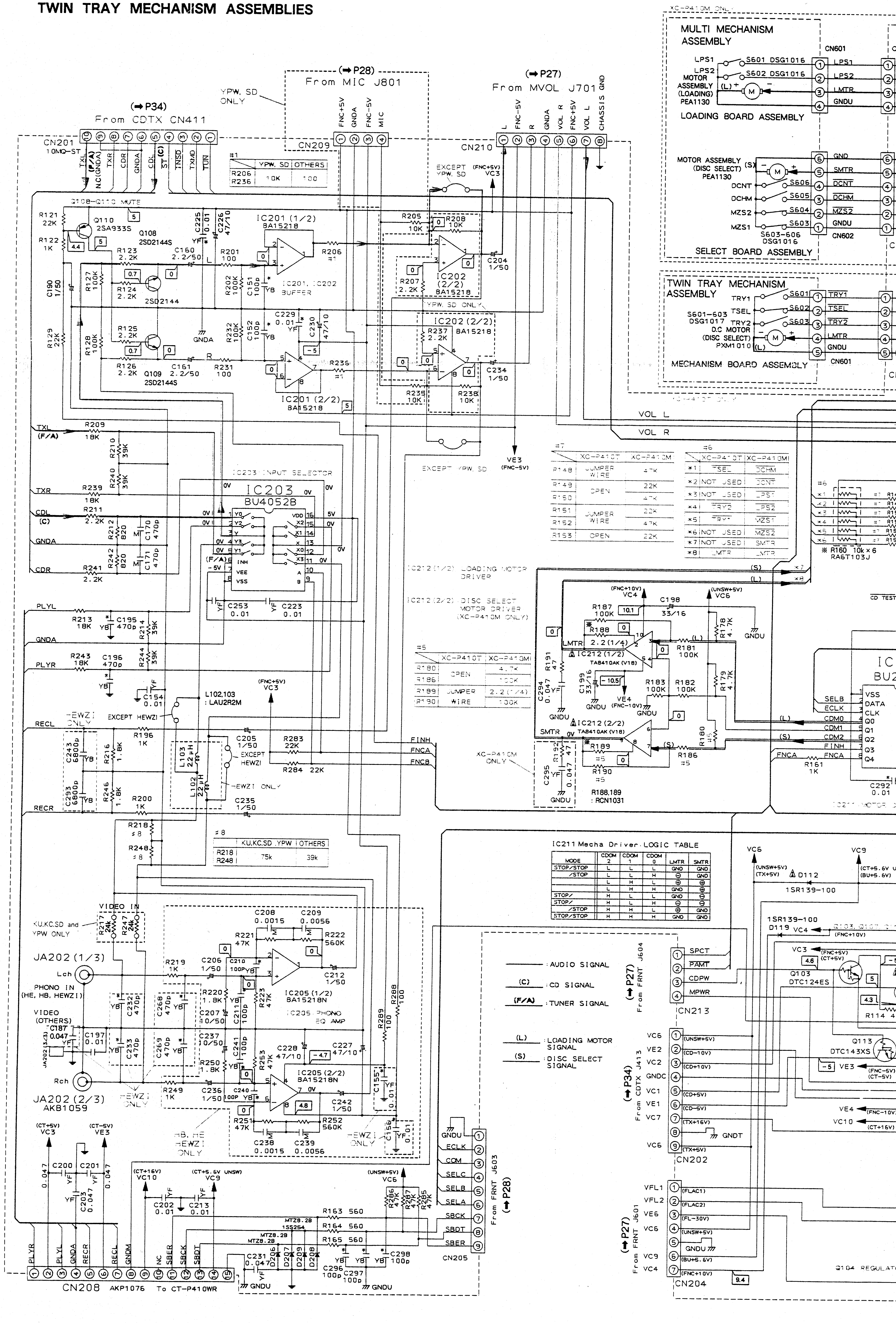
XC-P410T	XC-P410M
RAW1063	RAW1064

#1

	XC-P410T	XC-P410M
S613	A.EJCT	————
S628	————	DISC 3
S636	O/C I	EJCT
S637	O/C II	————
S638	————	DISC 4
S639	————	DISC 5
S644	————	DISC 6

———— : NOT USED

4.3 MAIN UNIT, MULTI MECHANISM AND TWIN TRAY MECHANISM ASSEMBLIES


XC-P410M ONLY
MULTI MECHANISM ASSEMBLY
LOADING BOARD ASSEMBLY
SELECT BOARD ASSEMBLY
TWIN TRAY MECHANISM ASSEMBLY
MECHANISM BOARD ASSEMBLY
XC-P410T ONLY
(➡P34) From CDTX CN411
(➡P28) From MIC J801
(➡P27) From MVOL J701
CN201
CN209
CN210
CN601
CN602
YPW, SD ONLY
EXCEPT YPW, SD
Q108~Q110 MUTE
IC201 (1/2) BA15218
IC202 (2/2) BA15218
IC201 (2/2) BA15218
IC201, IC202 BUFFER
IC203 INPUT SELECTOR
IC203 BU4052B
IC212 (1/2) LOADING MOTOR DRIVER
IC212 (2/2) DISC SELECT MOTOR DRIVER (XC-P410M ONLY)
IC212 (1/2) TA8410AK (V18)
IC212 (2/2) TA8410AK (V18)
R188,189 : RCN1031
L102,103 : LAU2R2M
EXCEPT HEWZI
HEWZI ONLY
VIDEO IN
KU,KC,SD and YPW ONLY
JA202 (1/3)
PHONO IN (HE, HB, HEWZI)
VIDEO (OTHERS)
JA202 (2/3) AKB1059
IC205 (1/2) BA15218N
IC205 PHONO EQ AMP
IC205 (2/2) BA15218N
HB, HE HEWZI ONLY
CN208 AKP1076 To CT-P410WR
CN205
From FRNT J603 (➡P28)
From FRNT J604 (➡P27)
From CDTX J413 (➡P34)
From FRNT J601 (➡P27)
CN213
CN202
CN204
VOL L
VOL R
Q112 1SR139-100
D119 1SR139-100
Q103 DTC124ES
Q113 DTC143XS
Q104 REGULATOR
※ R160 10k × 6 RA6T103J

#1

	YPW, SD	OTHERS
R206 R236	10K	100

#7

	XC-P410T	XC-P410M
R148	JUMPER WIRE	47K
R149	OPEN	22K
R150		47K
R151	JUMPER WIRE	22K
R152		47K
R153	OPEN	22K

#6

	XC-P410T	XC-P410M
*1	TSEL	DCHM
*2	NOT USED	DCNT
*3	NOT USED	LPS1
*4	TRY2	LPS2
*5	TRY1	MZS1
*6	NOT USED	MZS2
*7	NOT USED	SMTR
*8	LMTR	LMTR

#5

	XC-P410T	XC-P410M
R180	OPEN	4.7K
R186		100K
R189	JUMPER WIRE	2.2(1/4)
R190		100K

#8

	KU,KC,SD ,YPW	OTHERS
R218 R248	75k	39k

IC211 Mecha Driver LOGIC TABLE

MODE	CDOM 2	CDOM 1	CDOM 0	LMTR	SMTR
STOP/STOP	L	L	L	GND	GND
/STOP	L	L	H	⊖	GND
	L	H	L	⊕	⊕
	L	H	H	GND	⊕
STOP/	H	L	L	GND	⊖
STOP/	H	L	H	⊖	⊖
/STOP	H	H	L	⊕	GND
STOP/STOP	H	H	H	GND	GND

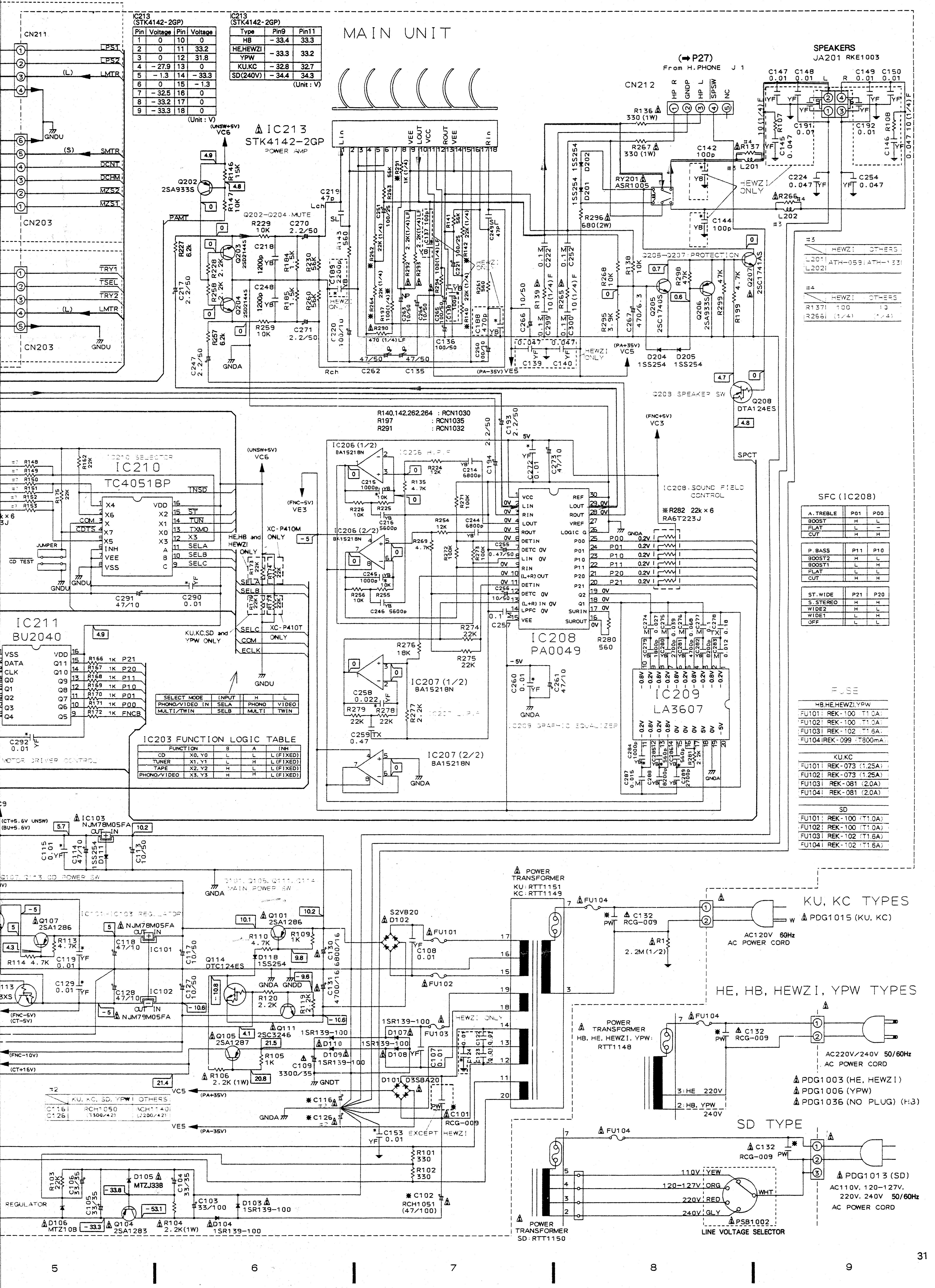
——— : AUDIO SIGNAL

(C) : CD SIGNAL

(F/A) : TUNER SIGNAL

(L) : LOADING MOTOR SIGNAL

(S) : DISC SELECT SIGNAL


MAIN UNIT
IC213 STK4142-2GP POWER AMP
IC210 TC4051BP
IC210 SELECTOR
IC211 BU2040
MOTOR DRIVER CONTROL
IC206 (1/2) BA15218N
IC206 H.P.F
IC206 (2/2) BA15218N
IC207 (1/2) BA15218N
IC207 (2/2) BA15218N
IC208 PA0049
IC208 SOUND FIELD CONTROL
※R282 22k × 6 RA6T223J
IC209 LA3607
IC209 GRAPHIC EQUALIZER
CN211
CN203
CN212
From H.PHONE J1
(→P27)
SPEAKERS JA201 RKE1003
RY201 ASR1005
HEWZI ONLY
Q202–Q204 MUTE
Q205–Q207 PROTECTION
Q208 SPEAKER SW
Q208 DTA124ES
R140,142,262,264 : RCN1030
R197 : RCN1035
R291 : RCN1032
XC-P410M ONLY
XC-P410T ONLY
HE,HB and HEWZI ONLY
KU,KC,SD and YPW ONLY
IC103 NJM78M05FA
Q107, Q113 CD POWER SW
Q101, Q105, Q111, Q114 MAIN POWER SW
IC101–IC103 REGULATOR
IC101 NJM78M05FA
IC102 NJM79M05FA
Q101 2SA1286
Q105 2SA1287
Q111 2SC3246
Q114 DTC124ES
Q104 2SA1283
S2VB20 D102
D101 D3SB420
POWER TRANSFORMER KU: RTT1151 KC: RTT1149
KU, KC TYPES
AC120V 60Hz AC POWER CORD
PDG1015 (KU, KC)
HE, HB, HEWZI, YPW TYPES
POWER TRANSFORMER HB, HE, HEWZI, YPW: RTT1148
AC220V/240V 50/60Hz AC POWER CORD
PDG1003 (HE, HEWZI)
PDG1006 (YPW)
PDG1036 (NO PLUG) (HB)
SD TYPE
POWER TRANSFORMER SD: RTT1150
PSB1002 LINE VOLTAGE SELECTOR
110V YEW
120–127V ORG
220V RED
240V GLY
WHT
PDG1013 (SD)
AC110V, 120–127V, 220V, 240V 50/60Hz AC POWER CORD
EXCEPT HEWZI
REGULATOR
5
6
7
8
9

IC213
(STK4142-2GP)

Pin	Voltage	Pin	Voltage
1	0	10	0
2	0	11	33.2
3	0	12	31.8
4	– 27.9	13	0
5	– 1.3	14	– 33.3
6	0	15	– 1.3
7	– 32.5	16	0
8	– 33.2	17	0
9	– 33.3	18	0

(Unit : V)

IC213
(STK4142-2GP)

Type	Pin9	Pin11
HB	– 33.4	33.3
HE,HEWZI YPW	– 33.3	33.2
KU,KC	– 32.8	32.7
SD(240V)	– 34.4	34.3

(Unit : V)

#3

	HEWZI	OTHERS
L201 L202	ATH-059	ATH-133

#4

	HEWZI	OTHERS
R137 R266	100 (1/4)	10 (1/4)

SFC (IC208)

A.TREBLE	P01	P00
BOOST	H	L
FLAT	L	–
CUT	H	H

P.BASS	P11	P10
BOOST2	H	L
BOOST1	L	H
FLAT	L	L
CUT	H	H

ST.WIDE	P21	P20
S.STEREO	H	H
WIDE2	H	L
WIDE1	L	H
OFF	L	L

FUSE

HB,HE,HEWZI,YPW	
FU101	REK-100 (T1.0A)
FU102	REK-100 (T1.0A)
FU103	REK-102 (T1.6A)
FU104	REK-099 (T800mA)

KU.KC	
FU101	REK-073 (1.25A)
FU102	REK-073 (1.25A)
FU103	REK-081 (2.0A)
FU104	REK-081 (2.0A)

SD	
FU101	REK-100 (T1.0A)
FU102	REK-100 (T1.0A)
FU103	REK-102 (T1.6A)
FU104	REK-102 (T1.6A)

SELECT MODE	INPUT	H	L
PHONO/VIDEO IN	SELA	PHONO	VIDEO
MULTI/TWIN	SELB	MULTI	TWIN

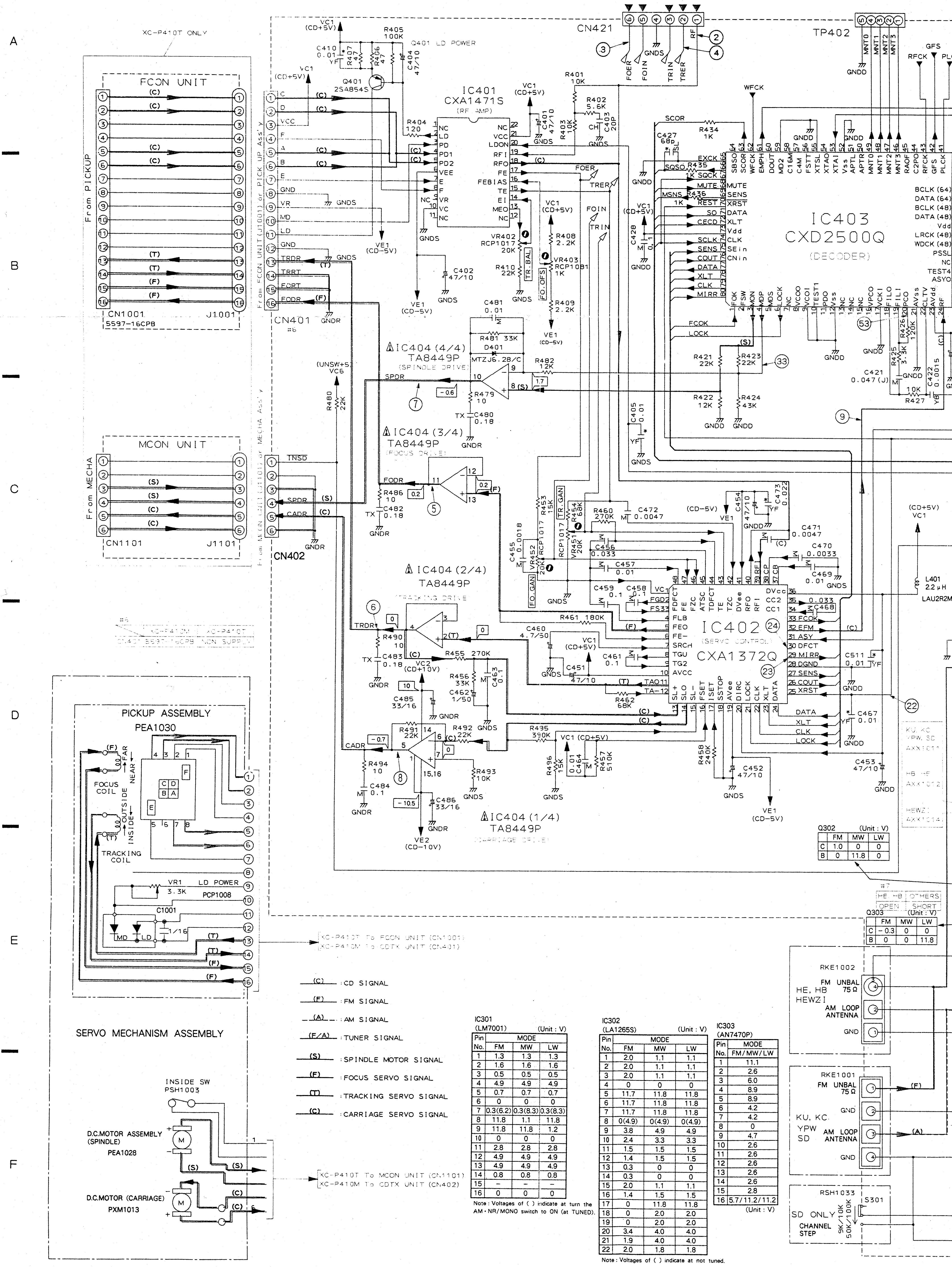
IC203 FUNCTION LOGIC TABLE

FUNCTION		B	A	INH
CD	X0, Y0	L	L	L (FIXED)
TUNER	X1, Y1	L	H	L (FIXED)
TAPE	X2, Y2	H	L	L (FIXED)
PHONO/VIDEO	X3, Y3	H	H	L (FIXED)

#2

	KU, KC, SD, YPW	OTHERS
C116 C126	RCH1050 (3300/42)	RCH1140 (2200/42)

4.4 FCON, MCON, CDTX UNITS, PICKUP AND SERVO MECHANISM ASSEMBLIES


XC-P410T ONLY
FCON UNIT
From PICKUP
CN1001 J1001
5597-16CPB
MCON UNIT
From MECHA
CN1101 J1101
From FCON UNIT (J1001) or PICK UP ASS'Y
CN401
From MCON UNIT (J1101) or MECHA ASS'Y
CN402
CN421
TP402
IC401
CXA1471S
(RF AMP)
Q401 LD POWER
Q401 2SA854S
IC403
CXD2500Q
(DECODER)
IC402
CXA1372Q
(SERVO CONTROL)
IC404 (4/4)
TA8449P
(SPINDLE DRIVE)
IC404 (3/4)
TA8449P
(FOCUS DRIVE)
IC404 (2/4)
TA8449P
(TRACKING DRIVE)
IC404 (1/4)
TA8449P
(CARRIAGE DRIVE)
VR402 RCP1017 20K
VR403 RCP1081 1K
VR451 RCP1017 20K
VR452 RCP1017 20K
TR. BAL
FO. OFS
TR. GAN
FO. GAN
L401 2.2 μH LAU2R2M
PICKUP ASSEMBLY
PEA1030
FOCUS COIL
TRACKING COIL
FAR
NEAR
OUTSIDE
INSIDE
VR1 3.3K LD POWER PCP1008
C1001 1/16
MD
LD
SERVO MECHANISM ASSEMBLY
INSIDE SW PSH1003
D.C.MOTOR ASSEMBLY (SPINDLE) PEA1028
D.C.MOTOR (CARRIAGE) PXM1013
XC-P410T To FCON UNIT (CN1001)
XC-P410M To CDTX UNIT (CN401)
XC-P410T To MCON UNIT (CN1101)
XC-P410M To CDTX UNIT (CN402)
#6 XC-P410M XC-P410T
CN401 5597-16CPB NON SUPPLY
RKE1002
HE, HB HEWZI
FM UNBAL 75 Ω
AM LOOP ANTENNA
GND
RKE1001
KU, KC YPW SD
FM UNBAL 75 Ω
GND
AM LOOP ANTENNA
GND
RSH1033
SD ONLY
CHANNEL STEP
9K/10K 50K/100K
S301
#7 HE HB OTHERS OPEN SHORT
KU, KC YPW, SD AXK1011
HE HB AXK1012
HEWZI AXK1014

- (C) : CD SIGNAL
- (F) : FM SIGNAL
- (A) : AM SIGNAL
- (F/A) : TUNER SIGNAL
- (S) : SPINDLE MOTOR SIGNAL
- (F) : FOCUS SERVO SIGNAL
- (T) : TRACKING SERVO SIGNAL
- (C) : CARRIAGE SERVO SIGNAL

Q302 (Unit : V)

	FM	MW	LW
C	1.0	0	0
B	0	11.8	0

Q303 (Unit : V)

	FM	MW	LW
C	-0.3	0	0
B	0	0	11.8

IC301
(LM7001) (Unit : V)

Pin No.	MODE		
	FM	MW	LW
1	1.3	1.3	1.3
2	1.6	1.6	1.6
3	0.5	0.5	0.5
4	4.9	4.9	4.9
5	0.7	0.7	0.7
6	0	0	0
7	0.3(6.2)	0.3(8.3)	0.3(8.3)
8	11.8	1.1	11.8
9	11.8	11.8	1.2
10	0	0	0
11	2.8	2.8	2.8
12	4.9	4.9	4.9
13	4.9	4.9	4.9
14	0.8	0.8	0.8
15	–	–	–
16	0	0	0

Note : Voltages of ( ) indicate at turn the AM・NR/MONO switch to ON (at TUNED).

IC302
(LA1265S) (Unit : V)

Pin No.	MODE		
	FM	MW	LW
1	2.0	1.1	1.1
2	2.0	1.1	1.1
3	2.0	1.1	1.1
4	0	0	0
5	11.7	11.8	11.8
6	11.7	11.8	11.8
7	11.7	11.8	11.8
8	0(4.9)	0(4.9)	0(4.9)
9	3.8	4.9	4.9
10	2.4	3.3	3.3
11	1.5	1.5	1.5
12	1.4	1.5	1.5
13	0.3	0	0
14	0.3	0	0
15	2.0	1.1	1.1
16	1.4	1.5	1.5
17	0	11.8	11.8
18	0	2.0	2.0
19	0	2.0	2.0
20	3.4	4.0	4.0
21	1.9	4.0	4.0
22	2.0	1.8	1.8

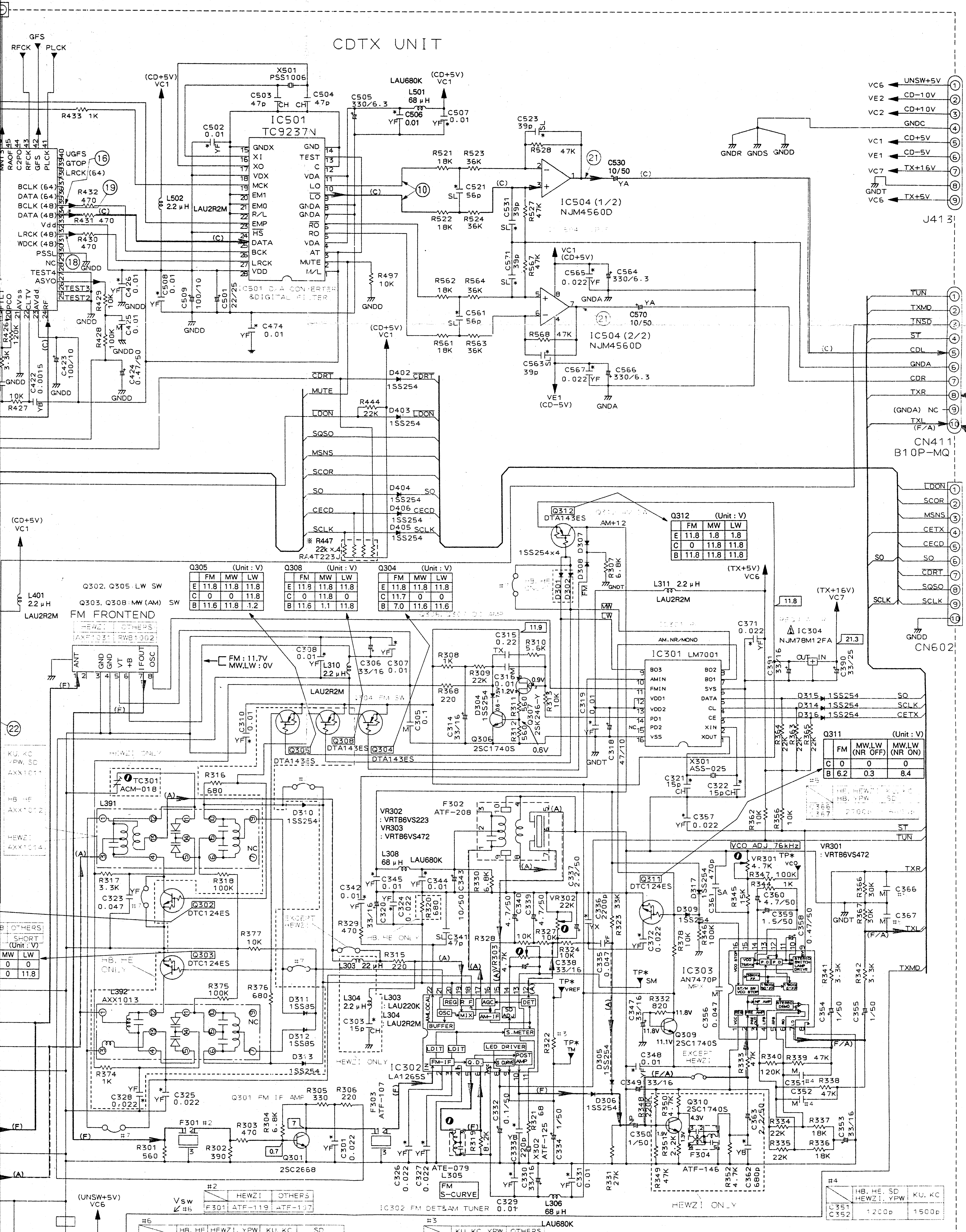
Note : Voltages of ( ) indicate at not tuned.

IC303
(AN7470P)

Pin No.	MODE
	FM/MW/LW
1	11.1
2	2.6
3	6.0
4	8.9
5	8.9
6	4.2
7	4.2
8	0
9	4.7
10	2.6
11	2.6
12	2.6
13	2.6
14	2.6
15	2.8
16	5.7/11.2/11.2

(Unit : V)

CDTX UNIT


A
B
C
D
E
F
GFS
RFCK
PLCK
R433 1K
UGFS
GTOP
LRCK (64)
BCLK (64)
DATA (64)
BCLK (48)
DATA (48)
Vdd
LRCK (48)
WDCK (48)
PSSL
NC
TEST4
ASYO
R432 470
R431 470
R430 470
GNDD
TEST3
TEST2
R429 10K
C426 0.01
R428 100K
C425 0.01
C423 100/10
C424 0.47/50
C422 0.0015
R427 10K
(CD+5V) VC1
X501 PSS1006
C503 47p CH
C504 47p CH
C502 0.01
IC501 TC9237N
GNDX XI XO VDX MCK EM1 EM0 R/L EMP HS DATA BCK LRCK VDD
GND TEST C VDA LO LO GNDA GNDA RO RO VDA AT MUTE M/L
L502 2.2 μH LAU2R2M
C508 0.01
C509 100/10
C501 22/25
IC501 D/A CONVERTER &DIGITAL FILTER
C474 0.01
R497 10K
LAU680K
L501 68 μH
C505 330/6.3
C506 0.01
C507 0.01
C523 39p
R528 47K
R521 18K
R523 36K
R522 18K
R524 36K
C521 56p
C531 39p
R527 47K
IC504 (1/2) NJM4560D
C530 10/50
C571 39p
R567 47K
C565 0.022
C564 330/6.3
R562 18K
R564 36K
R561 18K
R563 36K
C561 56p
R568 47K
C563 39p
IC504 (2/2) NJM4560D
C570 10/50
C567 0.022
C566 330/6.3
VE1 (CD-5V)
GNDA
CDRT
MUTE
LDON
SQSO
MSNS
SCOR
SO
CECD
SCLK
D402 1SS254
R444 22K
D403 1SS254
D404 1SS254
D406 1SS254
D405 1SS254
※ R447 22k ×4 RA4T223J
VC6 UNSW+5V
VE2 CD-10V
VC2 CD+10V
GNDC
VC1 CD+5V
VE1 CD-5V
VC7 TX+16V
GNDT
VC6 TX+5V
GNDR GNDS GNDD
J413
To MAIN CN202 (→P30)
TUN
TXMD
TNSD
ST
CDL
GNDA
CDR
TXR
(GNDA) NC
TXL (F/A)
CN411 B10P-MQ
To MAIN CN201 (→P29)
LDON
SCOR
MSNS
CETX
CECD
SO
CDRT
SQSO
SCLK
GNDD
CN602
To FRNT J602 (→P28)
L401 2.2 μH LAU2R2M
Q302, Q305 · LW SW
Q303, Q308 : MW (AM) SW
FM FRONTEND
HEWZI OTHERS
AXF1031 RWB1002
ANT GND GND VT +B IFOUT OSC
FM : 11.7V MW,LW : 0V
C308 0.01
L310 2.2 μH
C306 33/16
C307 0.01
LAU2R2M
Q305 Q308 Q304 DTA143ES
C310 0.01
C305 0.1
KU, KC YPW, SD AXX1011
HB, HE AXX1012
HEWZI AXX1014
HEWZI ONLY
TC301 ACM-018
L391
R316 680
D310 1SS254
R317 3.3K
C323 0.047
R318 100K
Q302 DTC124ES
OTHERS SHORT
R377 10K
Q303 DTC124ES
HB, HE ONLY
L392 AXX1013
R375 100K
R376 680
D311 1SS85
D312 1SS85
D313 1SS254
R374 1K
C328 0.022
C325 0.022
Q301 FM IF AMP
R305 330
R306 220
F301 #2
R303 470
R304 6.8K
R301 560
R302 390
Q301 2SC2668
C301 0.022
(UNSW+5V) VC6
R379 #6
R380 #6
Vsw #6
Q312 DTA143ES
AM+12
1SS254x4
D307 D308 D301 D302
R307 6.8K
L311 2.2 μH LAU2R2M
(TX+5V) VC6
(TX+16V) VC7
C315 0.22
R310 5.6K
R308 1K
R309 22K
C316 0.01
R368 220
D304 1SS254
Q307 2SK246-Y
R311 560
R312 560
R313 10K
C314 33/16
Q306 2SC1740S
C319 0.01
C318 47/10
C371 0.022
IC304 NJM78M12FA
C391 33/16
C390 33/25
IC301 LM7001
AM.NR/MONO
BO3 AMIN FMIN VDD1 VDD2 PD1 PD2 VSS
BO2 BO1 SYS DATA CL CE XIN XOUT
D315 1SS254
D314 1SS254
D316 1SS254
R364 22K
R363 22K
R365 22K
X301 ASS-025
C321 15p CH
C322 15p CH
C357 0.022
R362 10K
R356 10K
VCO ADJ 76kHz
VR301 : VRTB6VS472
VR301 4.7K
R347 100K
R344 1K
C360 4.7/50
C359 1.5/50
C358 0.47/50
F302 ATF-208
VR302 : VRTB6VS223
VR303 : VRTB6VS472
L308 68 μH LAU680K
C342 0.01
C345 0.01
C344 0.01
C343 10/50
R330 6.8K
C337 2.2/50
C320 33/16
C324 0.022
R320 680
C341 47p
R329 470
R328
C340 4.7/50
C339 4.7/50
VR302 22K
R327 10K
R324 10K
C338 33/16
VR303 4.7K
L303 22 μH
R315 220
L304 2.2 μH
L303 : LAU220K
L304 : LAU2R2M
C303 15p CH
HEWZI ONLY
IC302 LA1265S
AM LOCAL REG RF AGC DET OSC MIX AM-IF SD BUFFER S.METER LDIT LDIT LED DRIVER FM-IF Q.D S.CURVE POST AMP
C336 2200p
R323 33K
C335 0.047
TP* VREF
TP* SM
TP* TM
R322 #3
F303 ATF-107
C332 0.1/50
C326 0.022
C327 0.022
ATE-079 L305
FM S-CURVE
R319 8.2K
C333 220p
X302 ATF-125
R321 68
C334 1/50
C330 33/16
C329 0.01
C331 0.01
L306 68 μH LAU680K
IC302 FM DET&AM TUNER
Q311 DTC124ES
D317 1SS254
C361 470p
R345 15K
R378 10K
C372 0.022
D309 1SS254
R346 100K
IC303 AN7470P MPX
C347 33/16
R332 820
Q309 2SC1740S
C356 0.047
C348 0.01
D305 1SS254
D306 1SS254
R333 4.7K
R340 120K
R339 47K
C351 #4
R338 47K
C352 47K
C349 33/16
R348 220K
R350 4.7K
Q310 2SC1740S
C350 1/50
R351 2.2K
F304 ATF-146
C363 2.2/50
R334 22K
R335 22K
R337 18K
R336 18K
C353 33/16
R349 47K
R331 27K
R352 4.7K
C362 680p
HEWZI ONLY
EXCEPT HEWZI
R366 30K
C366
R367 30K
C367
R341 3.3K
R342 3.3K
C354 1/50
C355 1/50
TXR
TXL
TXMD
ST
TUN
(F/A)
(A)
(F)
(C)
10
16
18
19
21
22

Q305 (Unit : V)

	FM	MW	LW
E	11.8	11.8	11.8
C	0	0	11.8
B	11.6	11.8	1.2

Q308 (Unit : V)

	FM	MW	LW
E	11.8	11.8	11.8
C	0	11.8	0
B	11.6	1.1	11.8

Q304 (Unit : V)

	FM	MW	LW
E	11.8	11.8	11.8
C	11.7	0	0
B	7.0	11.6	11.6

Q312 (Unit : V)

	FM	MW	LW
E	11.8	1.8	1.8
C	0	11.8	11.8
B	11.8	11.8	11.8

Q311 (Unit : V)

	FM	MW,LW (NR OFF)	MW,LW (NR ON)
C	0	0	0
B	6.2	0.3	8.4

#5

	HE, HEWZI, KU, KC HB, YPW, SD
C366 C367	2700p [illegible]

#2

	HEWZI	OTHERS
F301	ATF-119	ATF-107

#6

	HB, HE	HEWZI, YPW	KU, KC	SD
LW	○	×	×	×
9K/10K	9K	9K	10K	10K/9K
Vsw	Vcc	GND	$\frac{1}{3}$Vcc	$\frac{1}{3}$Vcc/GND
R379	10K	OPEN	22K	22K
R380	OPEN	22K	10K	10K

#3

	KU, KC, YPW	OTHERS
R322	15K	27K

#4

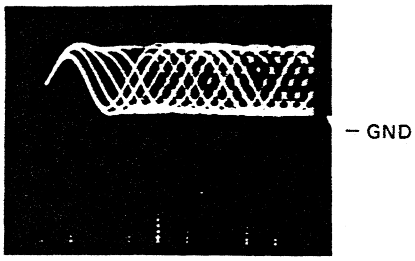
	HB, HE, SD HEWZI, YPW	KU, KC
C351 C352	1200p	1500p

Wave Forms

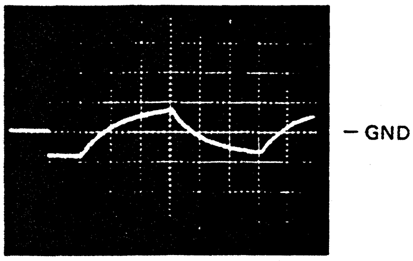
Note: The encircled numbers denote measuring points in the schematic diagram.

*1 50T-JUMP: After switching to the pause mode, press the manual search key.
*2 FOCUS-IN: Press the key without loading a disc.

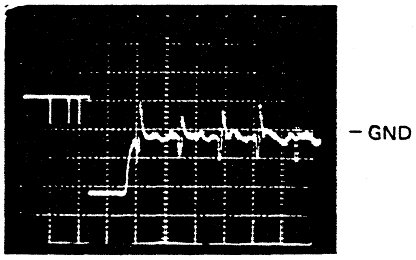
② CN421-Pin 1 : PLAY MODE (RF)
500mV/div 500nsec/div



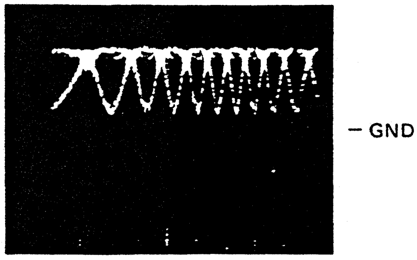
⑤ IC404-Pin 11 : FOCUS-IN (*2) MODE (FODR)
1V/div 200msec/div



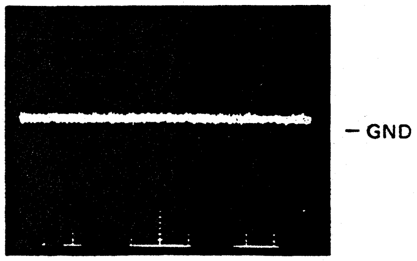
⑦ IC404-Pin 10 : TRACK SEARCH MODE (SPDR)
2V/div 50msec/div



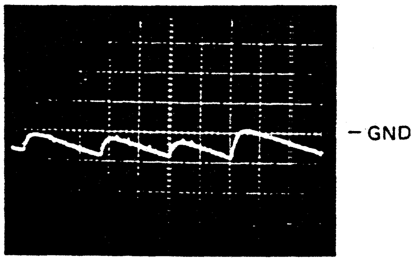
② CN421-Pin 1 : TRACK SEARCH MODE (RF)
500mV/div 200 μsec/div



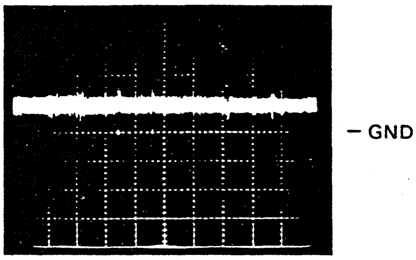
⑤ IC404-Pin 11 : PLAY MODE (FODR)
1V/div 1msec/div



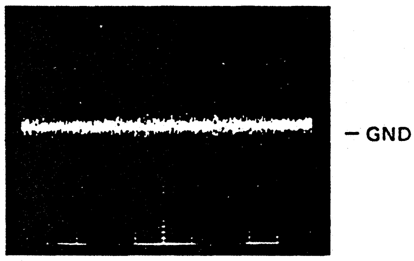
⑧ IC404-Pin 5 : PLAY MODE (CADR)
1V/div 2S/div



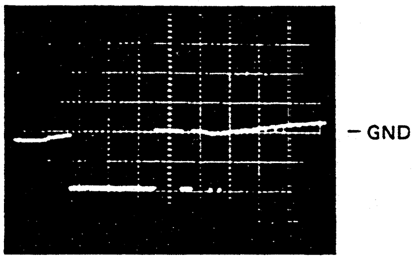
③ CN421-Pin 6 : PLAY MODE (FOER)
100mV/div 10msec/div



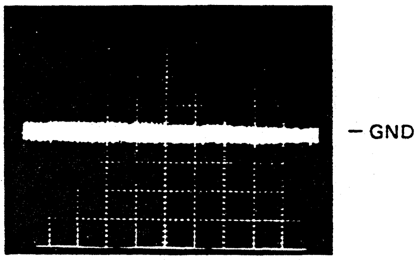
⑥ IC404-Pin 4 : PLAY MODE (TRDR)
500mV/div 1msec/div



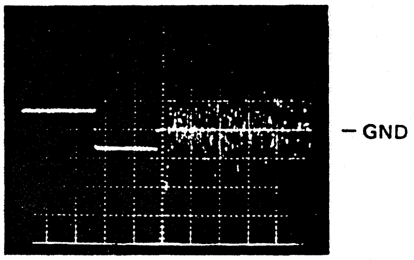
⑧ IC404-Pin 5 : TRACK SEARCH MODE (CADR)
2V/div 200msec/div



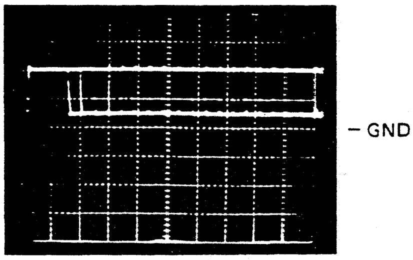
④ CN421-Pin 2 : PLAY MODE (TRER)
1V/div 10msec/div



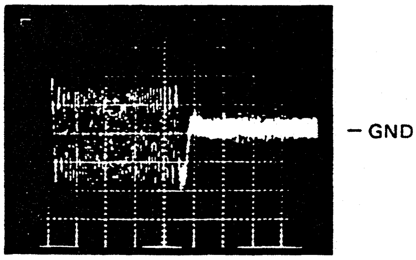
⑥ IC404-Pin 4 : 50T-JUMP (*1) MODE (TRDR)
500mV/div 1msec/div



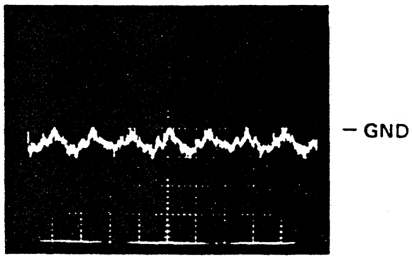
⑨ IC402-Pin 32 : PLAY MODE (EFM)
2V/div 500nsec/div



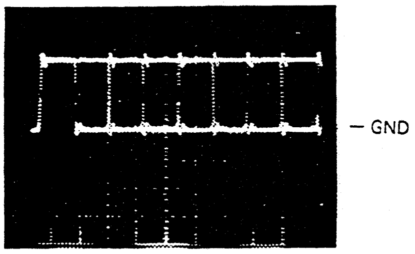
④ CN421-Pin 2 : 50T-JUMP (*1) MODE (TRER)
1V/div 1msec/div

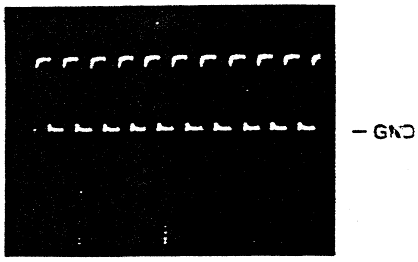
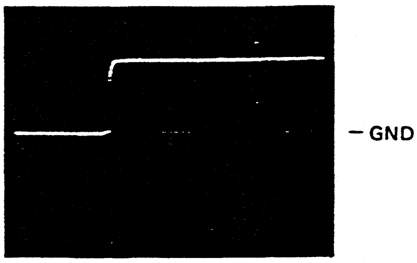
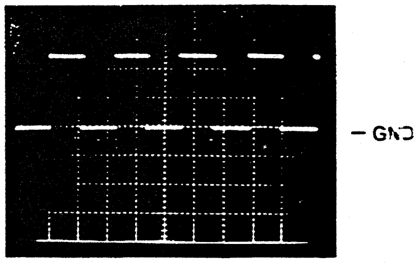
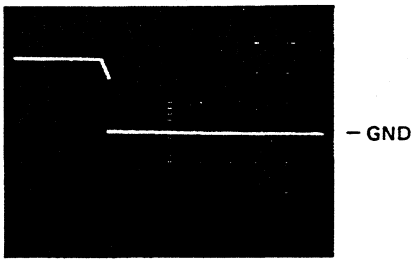
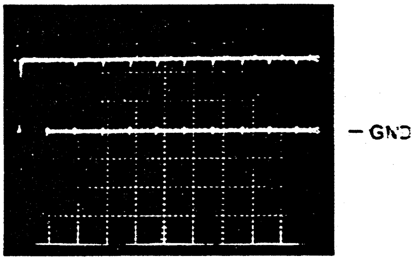
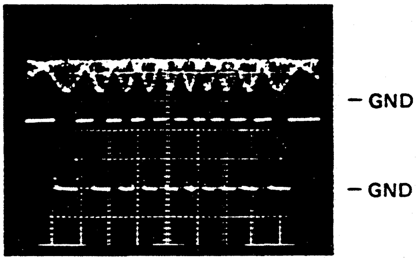
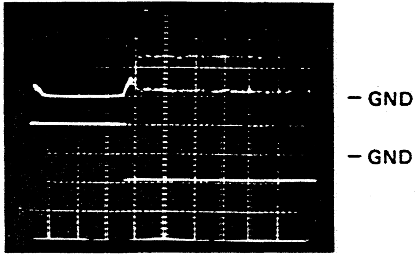
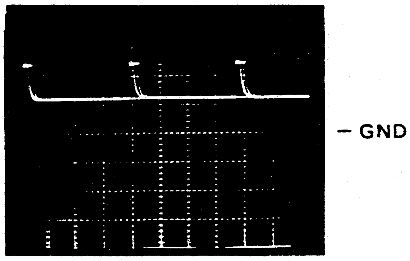
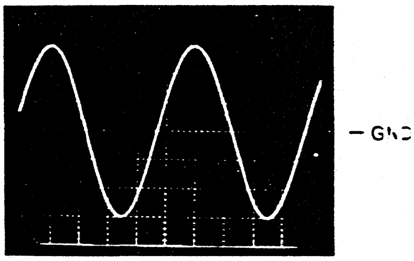
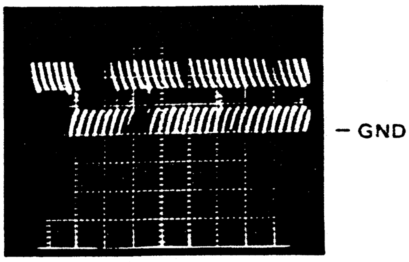


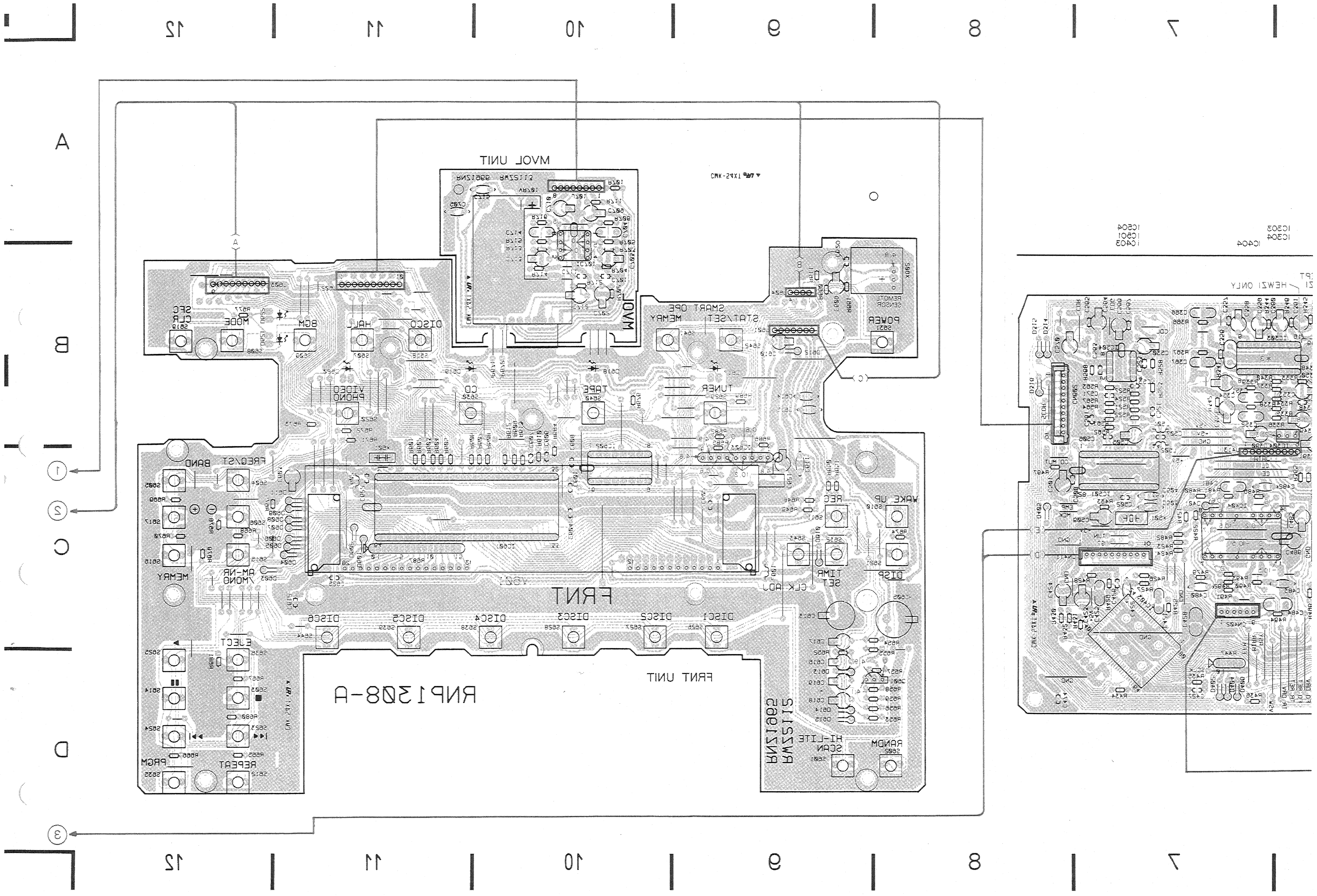
⑦ IC404-Pin 10 : PLAY MODE (SPDR)
1V/div 50msec/div



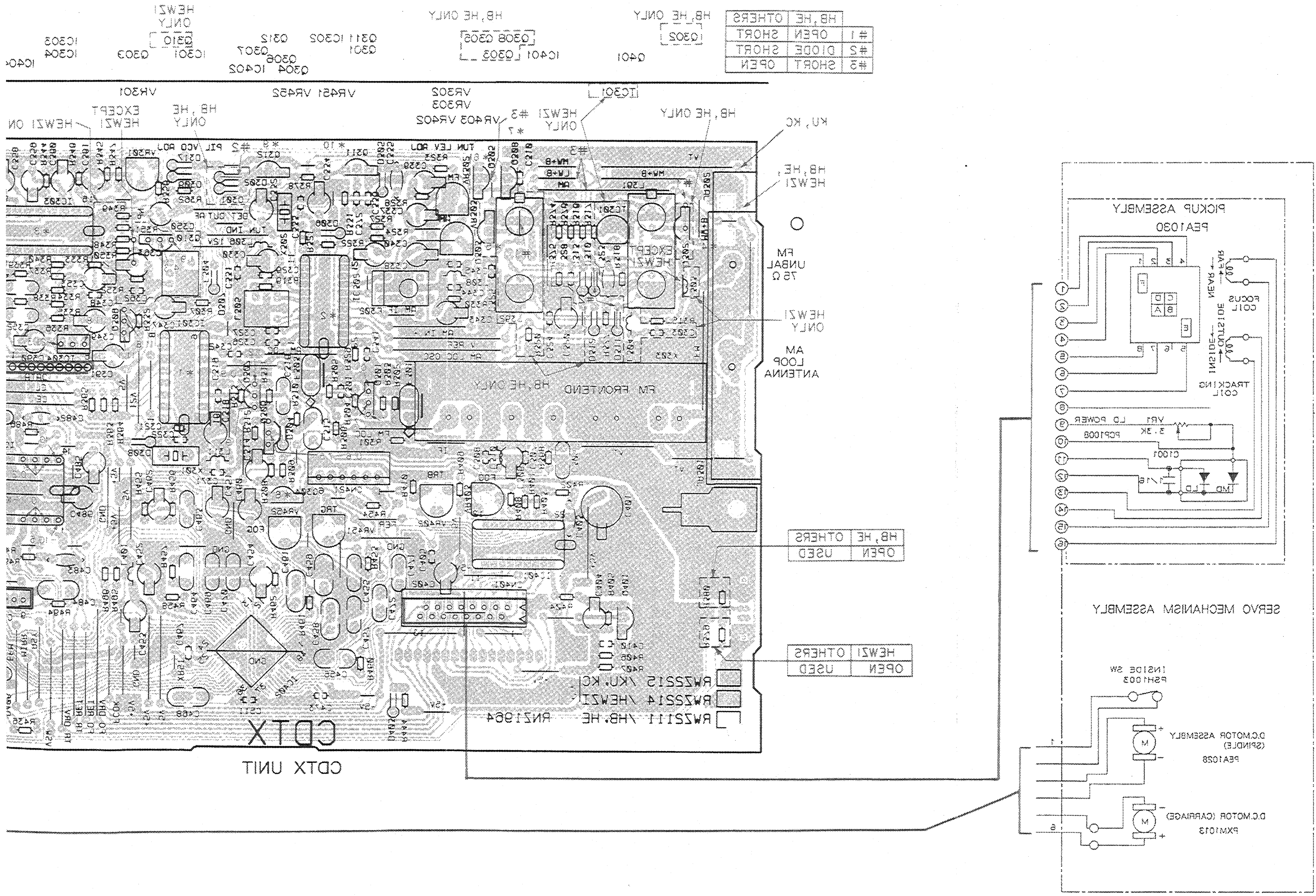
⑩ IC501-Pin 9,Pin 10 :
PLAY MODE (1kHz) (D/A OUT)
2V/div 0.1 μsec/div



⑯ IC403-Pin 35 : PLAY MODE (1kHz) (BCLK) 2V/div 500nsec/div 	㉒ IC402-Pin 25 : POWER SWITCH-ON (RST) 2V/div 100msec/div 	㉖
⑱ IC403-Pin 32 : PLAY MODE (1kHz) (LRCK) 2V/div 10 μsec/div 	㉒ IC402-Pin 25 : POWER SWITCH-OFF (RST) 2V/div 100msec/div 	㉗
⑲ IC403-Pin 34 : PLAY MODE (1kHz) (DATA) 2V/div 500nsec/div 	㉓ : TRACK SEARCH MODE Upper : CN421-Pin 1 (RF) 1V/div Lower : IC402-Pin29 (MIRR) 2V/div 200 μsec/div 	㉘
⑳	㉔ : PLAY MODE Upper : CN421-Pin 1 (RF) 1V/div Lower : IC402-Pin30 (DFCT) 5V/div 200 μsec/div 	㉝ IC403-Pin 4 : PLAY MODE (MDP) 2V/div 2 μsec/div 
㉑ IC504-Pin 1, Pin 7 : PLAY MODE (1kHz) 1V/div 200 μsec/div 	㉕	(53) IC403-Pin 20 : PLAY MODE (PCO) 2V/div 10 μsec/div 


MVOL UNIT
MVOL
FRNT UNIT
FRNT
RNP1308-A
RNZ1296
RWZ2115
SFC CLR
MODE
BGM
HALL
DISCO
SMART OPE
MEMORY
STAT/SET
POWER
REMOTE SENSOR
VIDEO PHONO
CD
TAPE
TUNER
BAND
FREQ/ST
MEMORY
AM-NR /MONO
WAKE UP
REC
DISP
TIMER SET
CLK ADJ
DISC1
DISC2
DISC3
DISC4
DISC5
DISC6
EJECT
REPEAT
PRGM
HI-LITE SCAN
RANDOM
HEWZ1 ONLY
IC303
IC304
IC404
IC504
IC501
IC403
A
B
C
D
1
2
3
7
8
9
10
11
12

This P. C. B. connection diagram is viewed from the foil side.



5. P.C.BOARDS CONNECTION DIAGRAM

5.1 XC-P410M type

*1
IC301
(LM7001) (Unit : V)

Pin No.	MODE FM	MODE MW	MODE LW
1	1.3	1.3	1.3
2	1.6	1.6	1.6
3	0.5	0.5	0.5
4	4.9	4.9	4.9
5	0.7	0.7	0.7
6	0	0	0
7	0.3(6.2)	0.3(8.3)	0.3(8.3)
8	11.8	1.1	11.8
9	11.8	11.8	1.2
10	0	0	0
11	2.8	2.8	2.8
12	4.9	4.9	4.9
13	4.9	4.9	4.9
14	0.8	0.8	0.8
15	–	–	–
16	0	0	0

Note : Voltages of ( ) indicate at turn the AM · NR/MONO switch to ON (at TUNED).

*2
IC302
(LA1265S) (Unit : V)

Pin No.	MODE FM	MODE MW	MODE LW
1	2.0	1.1	1.1
2	2.0	1.1	1.1
3	2.0	1.1	1.1
4	0	0	0
5	11.7	11.8	11.8
6	11.7	11.8	11.8
7	11.7	11.8	11.8
8	0(4.9)	0(4.9)	0(4.9)
9	3.8	4.9	4.9
10	2.4	3.3	3.3
11	1.5	1.5	1.5
12	1.4	1.5	1.5
13	0.3	0	0
14	0.3	0	0
15	2.0	1.1	1.1
16	1.4	1.5	1.5
17	0	11.8	11.8
18	0	2.0	2.0
19	0	2.0	2.0
20	3.4	4.0	4.0
21	1.9	4.0	4.0
22	2.0	1.8	1.8

Note : Voltages of ( ) indicate at not tuned.

*3
IC303
(AN7470P)

Pin No.	MODE FM/MW/LW
1	11.1
2	2.6
3	6.0
4	8.9
5	8.9
6	4.2
7	4.2
8	0
9	4.7
10	2.6
11	2.6
12	2.6
13	2.6
14	2.6
15	2.8
16	5.7/11.2/11.2

(Unit : V)

*4
Q302 (Unit : V)

	FM	MW	LW
C	1.0	0	0
B	0	11.8	0

*5
Q303 (Unit : V)

	FM	MW	LW
C	– 0.3	0	0
B	0	0	11.8

*6
Q305 (Unit : V)

	FM	MW	LW
E	11.8	11.8	11.8
C	0	0	11.8
B	11.6	11.8	1.2

*7
Q308 (Unit : V)

	FM	MW	LW
E	11.8	11.8	11.8
C	0	11.8	0
B	11.6	1.1	11.8

*8
Q304 (Unit : V)

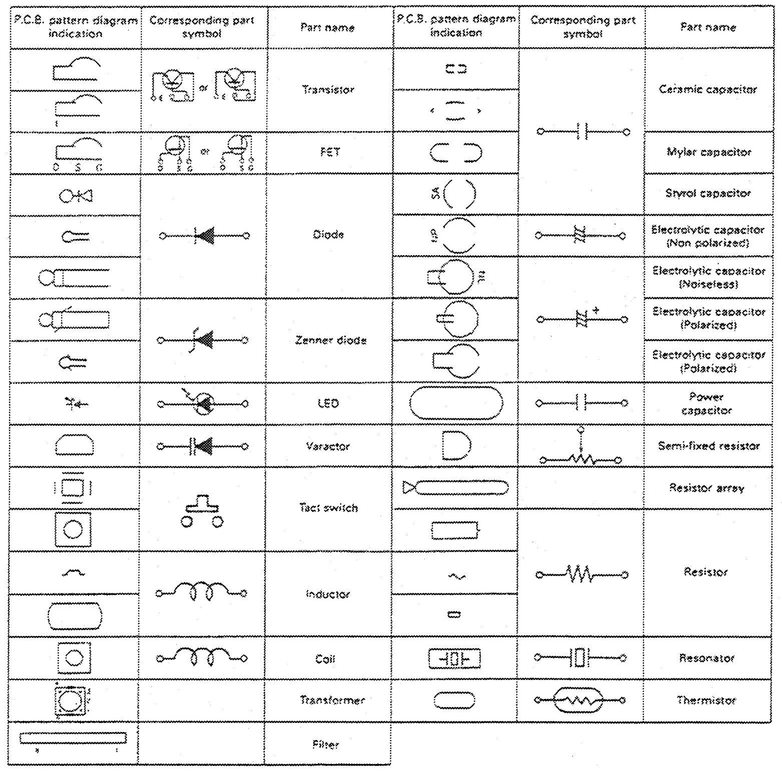
	FM	MW	LW
E	11.8	11.8	11.8
C	11.7	0	0
B	7.0	11.6	11.6

*9
Q312 (Unit : V)

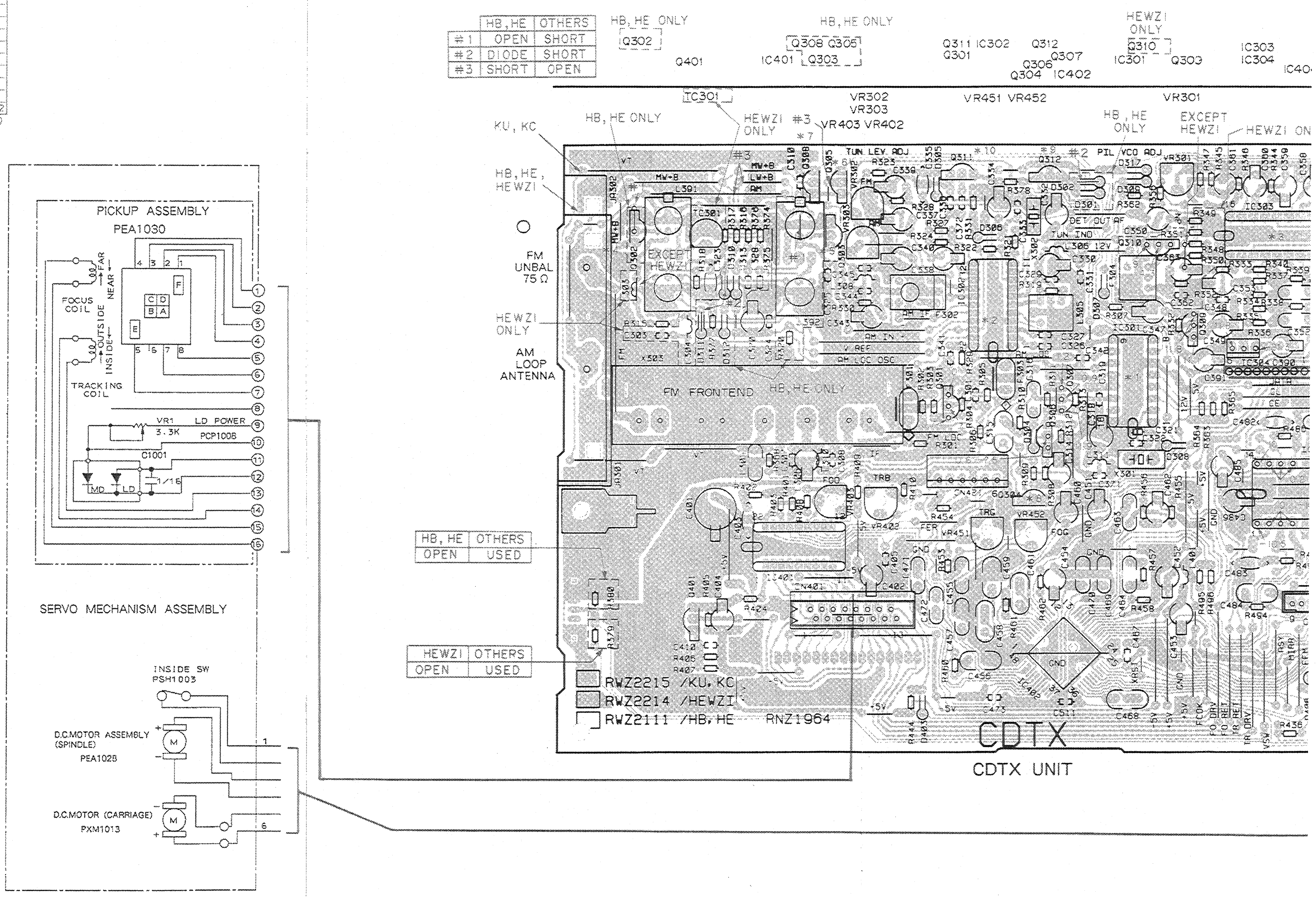
	FM	MW	LW
E	11.8	1.8	1.8
C	0	11.8	11.8
B	11.8	11.8	11.8

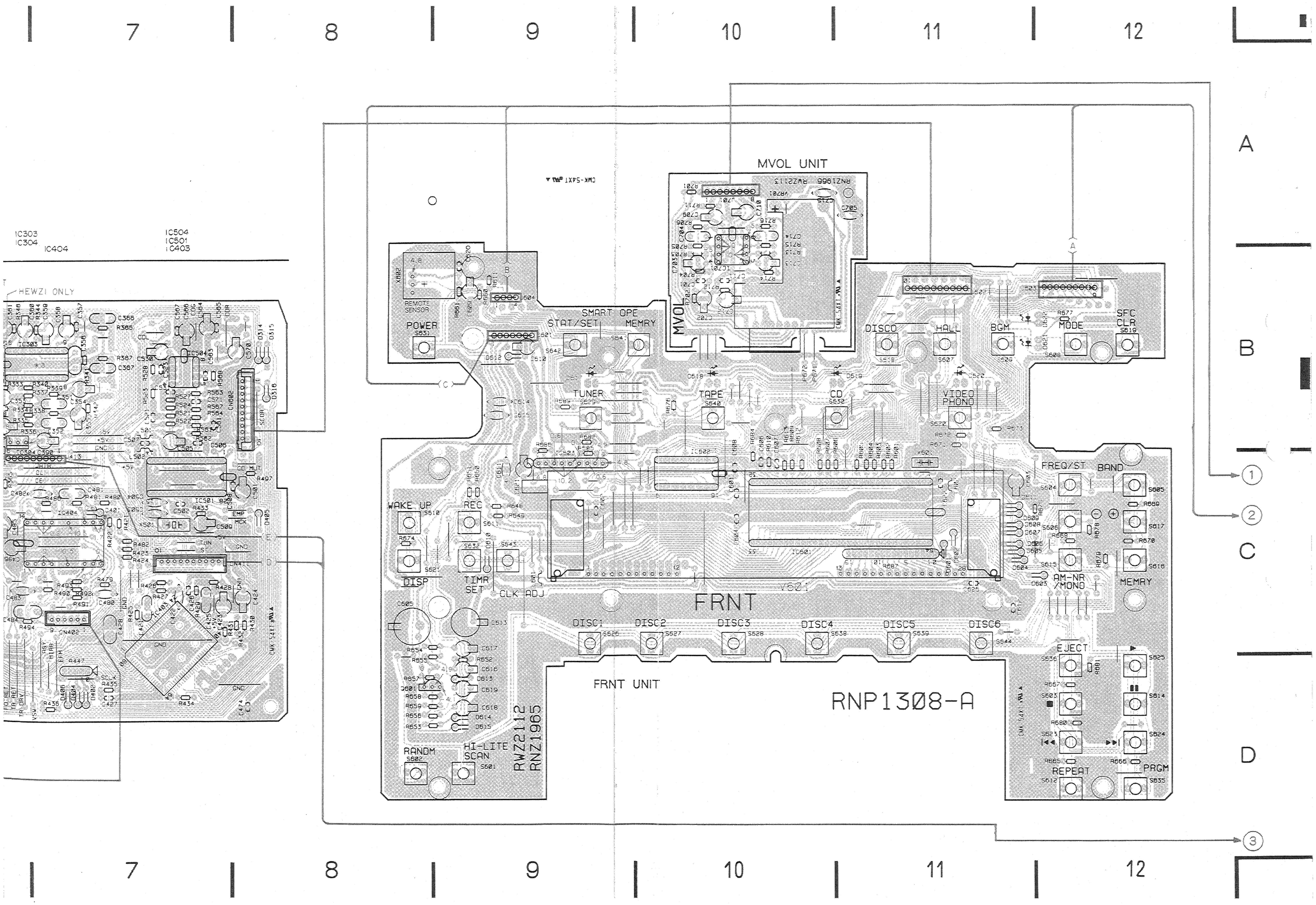
*10
Q311 (Unit : V)

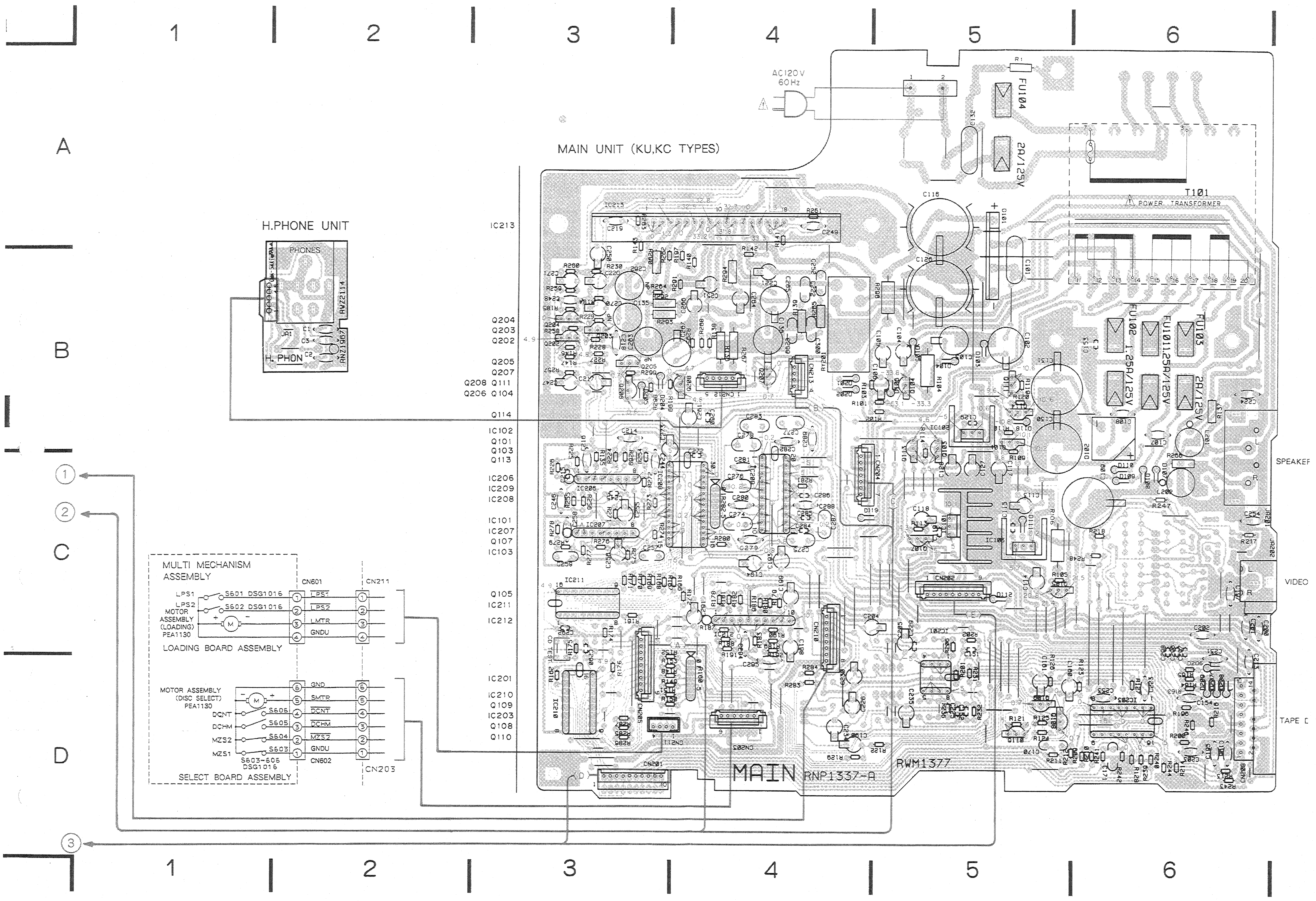
	FM	MW.LW (NR OFF)	MW.LW (NR ON)
C	0	0	0
B	6.2	0.3	8.4


P.C.B. pattern diagram indication
Corresponding part symbol
Part name
Transistor
FET
Diode
Zenner diode
LED
Varactor
Tact switch
Inductor
Coil
Transformer
Filter
Ceramic capacitor
Mylar capacitor
Styrol capacitor
Electrolytic capacitor (Non polarized)
Electrolytic capacitor (Noiseless)
Electrolytic capacitor (Polarized)
Electrolytic capacitor (Polarized)
Power capacitor
Semi-fixed resistor
Resistor array
Resistor
Resonator
Thermistor

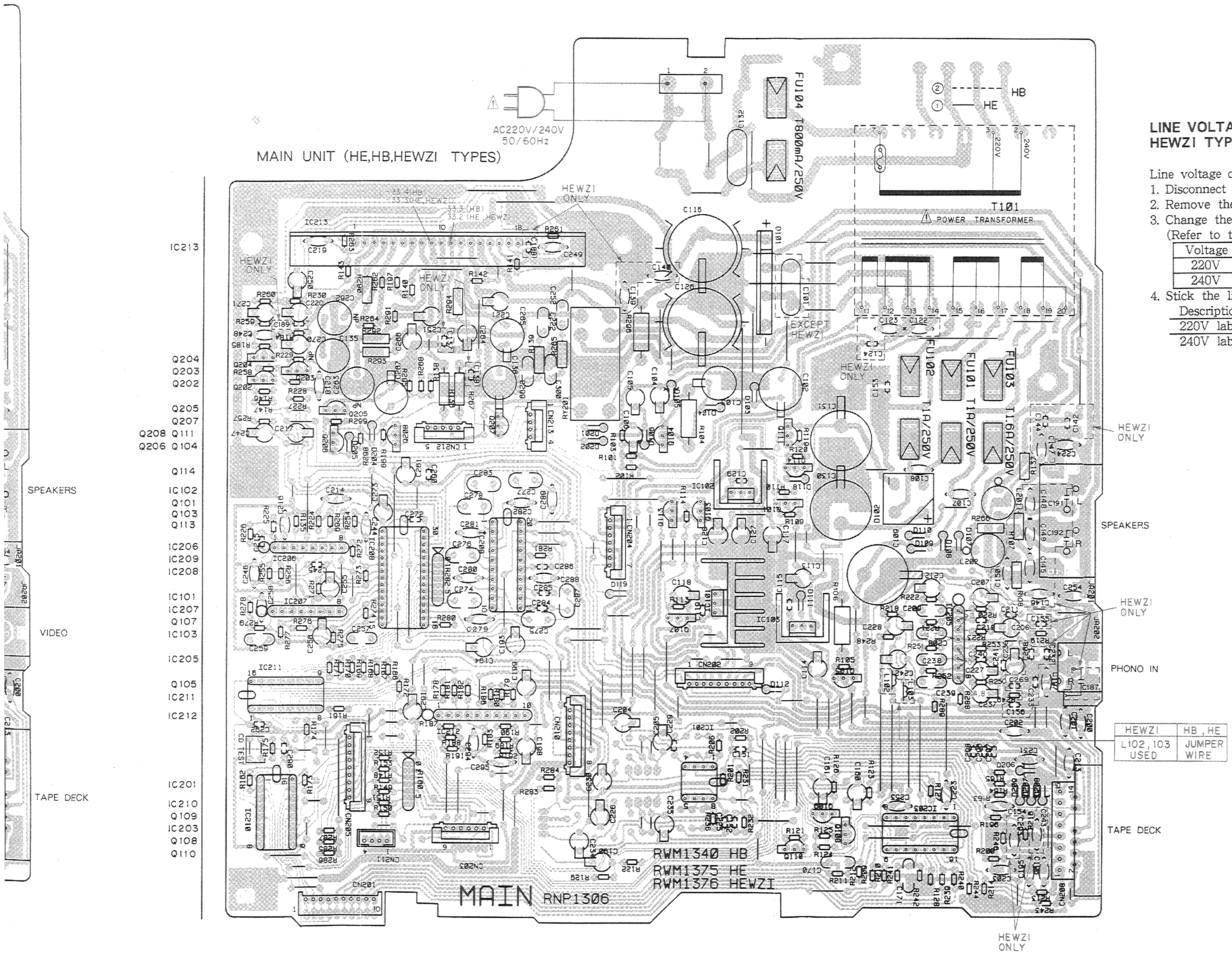
1. This P.C.B. connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the above Table.
3. The capacitor terminal marked with ▭ shows negative terminal.
4. The diode marked with ○ shows cathode side.
5. The transistor terminal marked with ▭ shows emitter.


PICKUP ASSEMBLY
PEA1030
FOCUS COIL
FAR
NEAR
OUTSIDE
INSIDE
TRACKING COIL
VR1 3.3K
LD POWER
PCP1008
C1001
1/16
MD
LD
SERVO MECHANISM ASSEMBLY
INSIDE SW
PSH1003
D.C.MOTOR ASSEMBLY (SPINDLE)
PEA1028
D.C.MOTOR (CARRIAGE)
PXM1013
	HB, HE	OTHERS
#1	OPEN	SHORT
#2	DIODE	SHORT
#3	SHORT	OPEN
HB, HE ONLY
Q302
Q401
HB, HE ONLY
Q308 Q305
IC401 Q303
Q311 IC302
Q301
Q312
Q307
Q306
Q304 IC402
HEWZI ONLY
Q310
IC301
Q303
IC303
IC304
TC301
VR302
VR303
VR403 VR402
VR451 VR452
VR301
KU, KC
HB, HE ONLY
HEWZI ONLY
HB, HE, HEWZI
HB, HE ONLY
EXCEPT HEWZI
HEWZI ON
FM UNBAL 75 Ω
HEWZI ONLY
AM LOOP ANTENNA
EXCEPT HEWZI
FM FRONTEND
HB, HE ONLY
TUN LEV ADJ
PIL VCO ADJ
DET OUT AF
TUN IND
HB, HE	OTHERS
OPEN	USED
HEWZI	OTHERS
OPEN	USED
RWZ2215 /KU, KC
RWZ2214 /HEWZI
RWZ2111 /HB, HE
RNZ1964
CDTX
CDTX UNIT


7
8
9
10
11
12
A
B
C
D
①
②
③
IC303
IC304
IC404
IC504
IC501
IC403
HEWZI ONLY
MVOL UNIT
MVOL
REMOTE SENSOR
POWER
SMART OPE
STAT/SET
MEMRY
DISCO
HALL
BGM
MODE
SFC CLR
TUNER
TAPE
CD
VIDEO PHONO
FREQ/ST
BAND
WAKE UP
REC
DISP
TIMR SET
CLK ADJ
MEMORY
AM-NR /MONO
FRNT
DISC1
DISC2
DISC3
DISC4
DISC5
DISC6
EJECT
FRNT UNIT
RNP1308-A
RWZ2112
RNZ1965
RANDM
HI-LITE SCAN
REPEAT
PRGM



1
2
3
4
5
6
A
B
C
D
MAIN UNIT (KU,KC TYPES)
AC120V
60Hz
FU104
2A/125V
R1
T101
POWER TRANSFORMER
FU100 1.25A/125V
FU101 1.25A/125V
FU103 2A/125V
C116
C120
D101
C101
SPEAKER
VIDEO
TAPE D
H.PHONE UNIT
PHONES
RNZ2114
RNZ1967
JA1
H. PHON
IC213
Q204
Q203
Q202
Q205
Q207
Q208 Q111
Q206 Q104
Q114
IC102
Q101
Q103
Q113
IC206
IC209
IC208
IC101
IC207
Q107
IC103
Q105
IC211
IC212
IC201
IC210
Q109
IC203
Q108
Q110
MULTI MECHANISM ASSEMBLY
CN601
CN211
LPS1
S601 DSG1016
LPS2
S602 DSG1016
MOTOR ASSEMBLY (LOADING) PEA1130
LMTR
GNDU
LOADING BOARD ASSEMBLY
MOTOR ASSEMBLY (DISC SELECT) PEA1130
GND
SMTR
DCNT
DCHM
MZS2
MZS1
S606
S605
S604
S603
S603-606 DSG1016
CN602
CN203
SELECT BOARD ASSEMBLY
CN201
CN202
CN205
CN212
CN213
CN204
CN210
CN208
CN206
IC205
IC105
MAIN RNP1337-A
RWM1377
①
②
③


MAIN UNIT (HE,HB,HEWZI TYPES)
AC220V/240V
50/60Hz
FU104 T800mA/250V
HB
HE
220V
240V
T101
POWER TRANSFORMER
HEWZI ONLY
EXCEPT HEWZI
FU102 T1A/250V
FU101 T1A/250V
FU103 T1.6A/250V
IC213
Q204
Q203
Q202
Q205
Q207
Q208 Q111
Q206 Q104
Q114
IC102
Q101
Q103
Q113
IC206
IC209
IC208
IC101
IC207
Q107
IC103
IC205
Q105
IC211
IC212
IC201
IC210
Q109
IC203
Q108
Q110
SPEAKERS
VIDEO
TAPE DECK
PHONO IN
HEWZI | HB ,HE
L102,103 USED | JUMPER WIRE
RWM1340 HB
RWM1375 HE
RWM1376 HEWZI
MAIN RNP1306
A
B
C
D

LINE VOLTAGE SELECTION FOR HE, HB, AND HEWZI TYPES

Line voltage can be changed with the following steps.

1. Disconnect the AC power cord.
2. Remove the top cover.
3. Change the position of the jumper wire as follows (Refer to the MAIN unit).

Voltage	Jumper wire position
220V	①
240V	②

4. Stick the line voltage label on the rear panel.

Description	Part No.
220V label	AAX-193
240V label	AAX-192

LINE VOLTAGE SELECTION FOR HE, HB, AND HEWZI TYPES

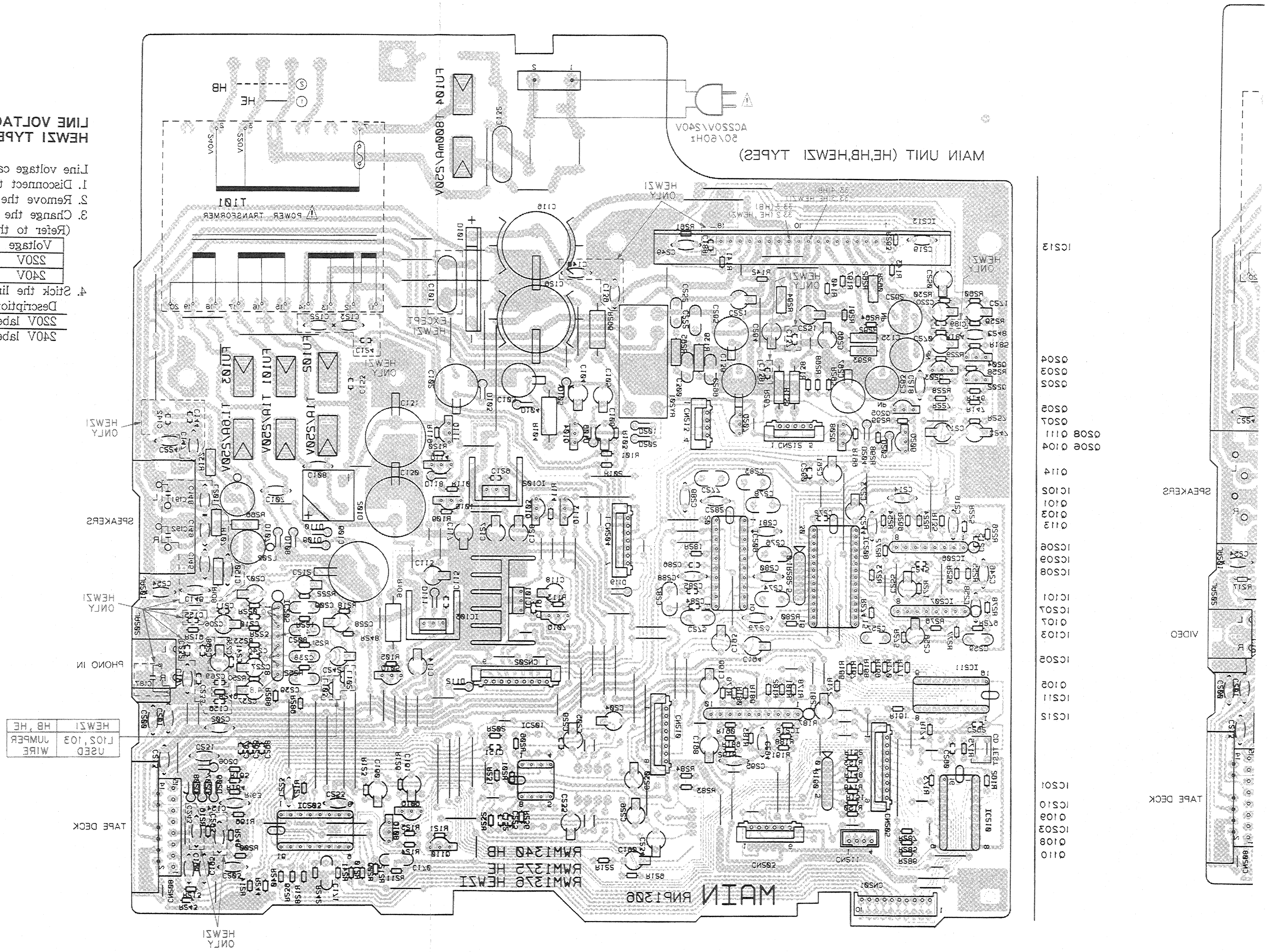
Line voltage can be changed with the following steps.

1. Disconnect the AC power cord.
2. Remove the top cover.
3. Change the position of the jumper wire as follows (Refer to the MAIN unit).

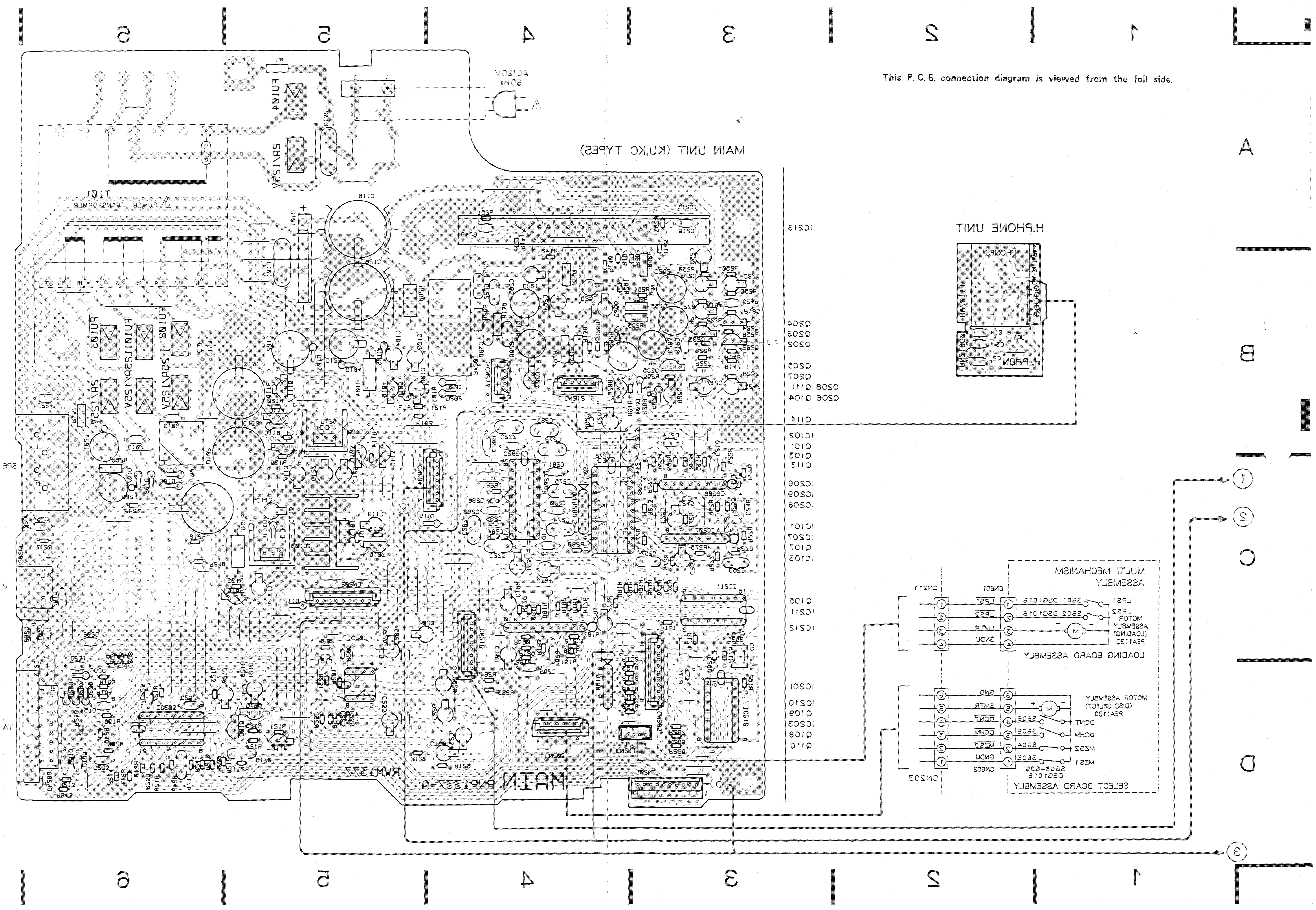
Voltage	Jumper wire position
220V	①
240V	②

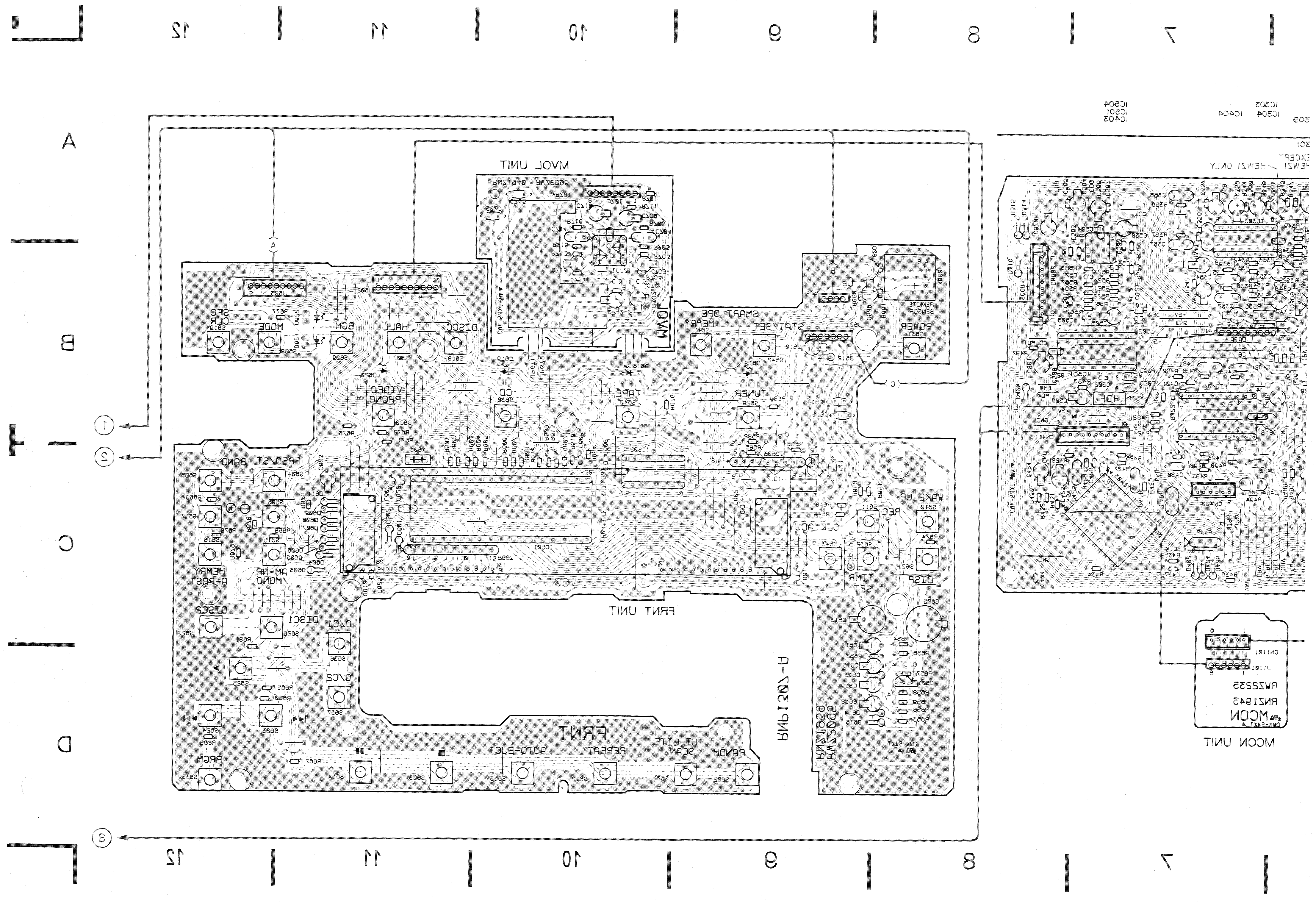
4. Stick the line voltage label on the rear panel.

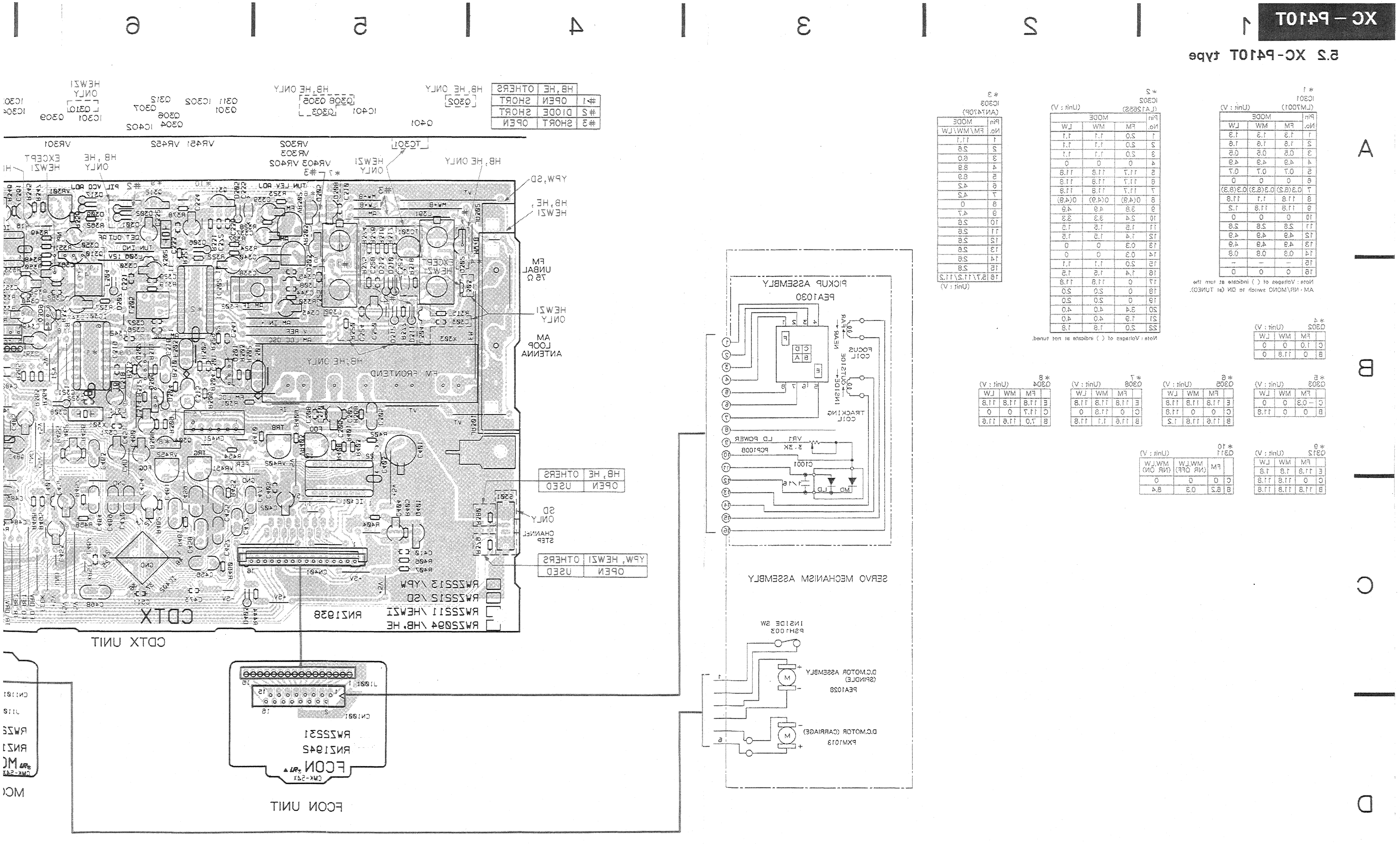
Description	Part No.
220V label	AAX-193
240V label	AAX-192


MAIN UNIT (HE,HB,HEWZI TYPES)
AC220V/240V 50/60Hz
T101 POWER TRANSFORMER
HB
HE
FU104 T800mA/250V
FU101 T1A/250V
FU102 T1A/250V
FU103 T1.6A/250V
EXCEPT HEWZI
HEWZI ONLY
SPEAKERS
PHONO IN
TAPE DECK
VIDEO
CD TEST
HEWZI | HB, HE
L102, 103 USED | JUMPER WIRE
RWM1340 HB
RWM1375 HE
RWM1376 HEWZI
MAIN RNP1306
IC213
Q204 Q203 Q202
Q205 Q207
Q208 Q111
Q206 Q104
Q114
IC102 Q101 Q103 Q113
IC206 IC209 IC208
IC101 IC207 Q107 IC103
IC205
Q105 IC211
IC212
IC201
IC210 Q109 IC203 Q108 Q110

This P. C. B. connection diagram is viewed from the foil side.


6
5
4
3
2
1
A
B
C
D
MAIN UNIT (KU,KC TYPES)
AC120V 60Hz
T101 POWER TRANSFORMER
FU104
FU101
FU102
FU103
IC213
H.PHONE UNIT
PHONES
H.PHON
MULTI MECHANISM ASSEMBLY
LOADING BOARD ASSEMBLY
CN801
CN211
LPS1
LPS2
MOTOR ASSEMBLY (LOADING) PEA1130
MOTOR ASSEMBLY (DISC SELECT) PEA1130
SELECT BOARD ASSEMBLY
CN602
CN203
DCNT
DCHM
MZS2
MZS1
GNDU
SMTR
LMTR
GND
MAIN
RNP1337-A
RWM1377
①
②
③


12
11
10
9
8
7
A
B
C
D
MVOL UNIT
MVOL
FRNT UNIT
FRNT
MCON UNIT
MCON
RWZ2255
RNZ1943
RNP1307-A
RNZ1630
RWZ2005
SFC CLR
MODE
BGM
HALL
DISCO
VIDEO PHONO
CD
TAPE
TUNER
SMART OPE
MEMRY
STAT/SET
POWER
REMOTE SENSOR
BAND
FREQ/ST
MEMRY A-PRST
AM-NR MONO
DISC2
DISC1
0/C1
0/C2
PRGM
WAKE UP
REC
CLK ADJ
TIMR SET
DISP
RANDM
HI-LITE SCAN
REPEAT
AUTO-EJCT
V601
IC601
CN101
J101
①
②
③



This P.C.B. connection diagram is viewed from the foil side.

5.2 XC-P410T type

＊1
IC301
(LM7001) (Unit : V)

Pin No.	MODE FM	MODE MW	MODE LW
1	1.3	1.3	1.3
2	1.6	1.6	1.6
3	0.5	0.5	0.5
4	4.9	4.9	4.9
5	0.7	0.7	0.7
6	0	0	0
7	0.3(6.2)	0.3(6.3)	0.3(6.3)
8	11.8	1.1	11.8
9	11.8	11.8	1.2
10	0	0	0
11	2.8	2.8	2.8
12	4.9	4.9	4.9
13	4.9	4.9	4.9
14	0.8	0.8	0.8
15	–	–	–
16	0	0	0

Note : Voltages of ( ) indicate at turn the AM・NR/MONO switch to ON (at TUNED).

＊2
IC302
(LA1265S) (Unit : V)

Pin No.	MODE FM	MODE MW	MODE LW
1	2.0	1.1	1.1
2	2.0	1.1	1.1
3	2.0	1.1	1.1
4	0	0	0
5	11.7	11.8	11.8
6	11.7	11.8	11.8
7	11.7	11.8	11.8
8	0(4.9)	0(4.9)	0(4.9)
9	3.8	4.9	4.9
10	2.4	3.3	3.3
11	1.5	1.5	1.5
12	1.4	1.5	1.5
13	0.3	0	0
14	0.3	0	0
15	2.0	1.1	1.1
16	1.4	1.5	1.5
17	0	11.8	11.8
18	0	2.0	2.0
19	0	2.0	2.0
20	3.4	4.0	4.0
21	1.9	4.0	4.0
22	2.0	1.8	1.8

Note : Voltages of ( ) indicate at not tuned.

＊3
IC303
(AN7470P)

Pin No.	MODE FM/MW/LW
1	11.1
2	2.6
3	6.0
4	8.9
5	8.9
6	4.2
7	4.2
8	0
9	4.7
10	2.6
11	2.6
12	2.6
13	2.6
14	2.6
15	2.8
16	5.7/11.2/11.2

(Unit : V)

＊4
Q302 (Unit : V)

	FM	MW	LW
C	1.0	0	0
B	0	11.8	0

＊5
Q303 (Unit : V)

	FM	MW	LW
C	−0.3	0	0
B	0	0	11.8

＊6
Q305 (Unit : V)

	FM	MW	LW
E	11.8	11.8	11.8
C	0	0	11.6
B	11.6	11.8	1.2

＊7
Q308 (Unit : V)

	FM	MW	LW
E	11.8	11.8	11.8
C	0	11.8	0
B	11.6	1.1	11.8

＊8
Q304 (Unit : V)

	FM	MW	LW
E	11.8	11.8	11.8
C	11.7	0	0
B	7.0	11.8	11.6

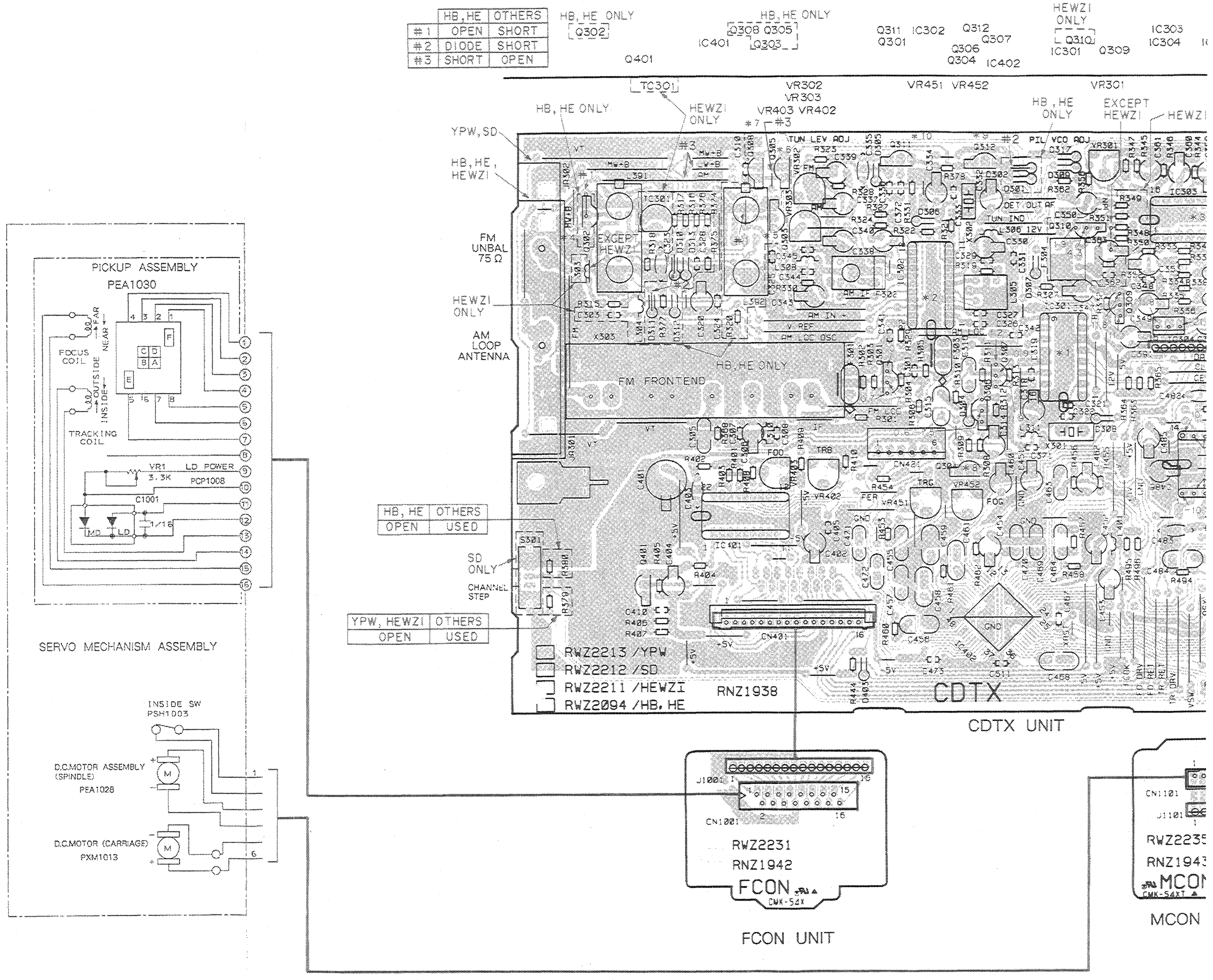
＊9
Q312 (Unit : V)

	FM	MW	LW
E	11.8	1.8	1.8
C	0	11.8	11.8
B	11.8	11.8	11.8

＊10
Q311 (Unit : V)

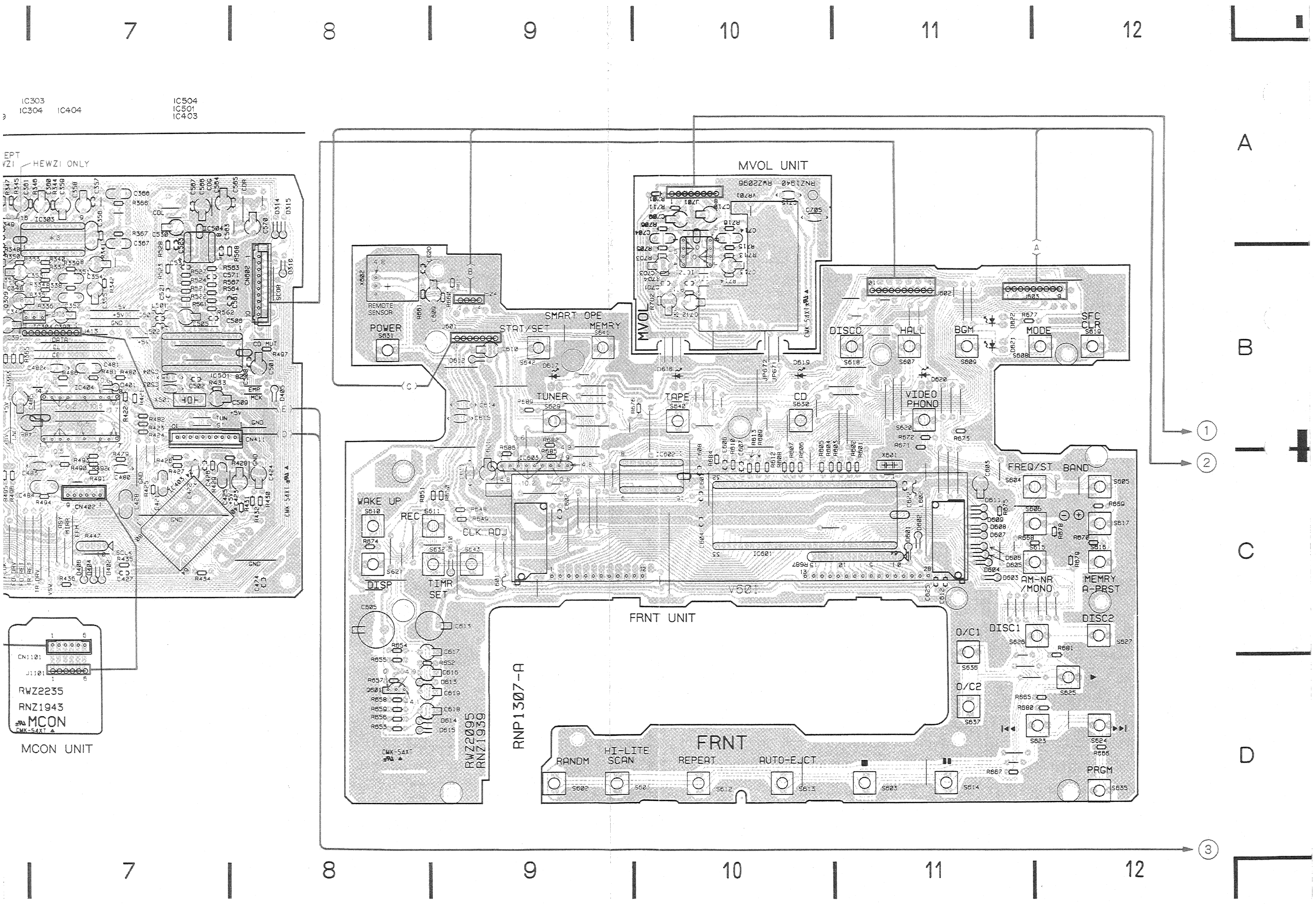
	FM	MW,LW (NR OFF)	MW,LW (NR ON)
C	0	0	0
B	6.2	0.3	8.4

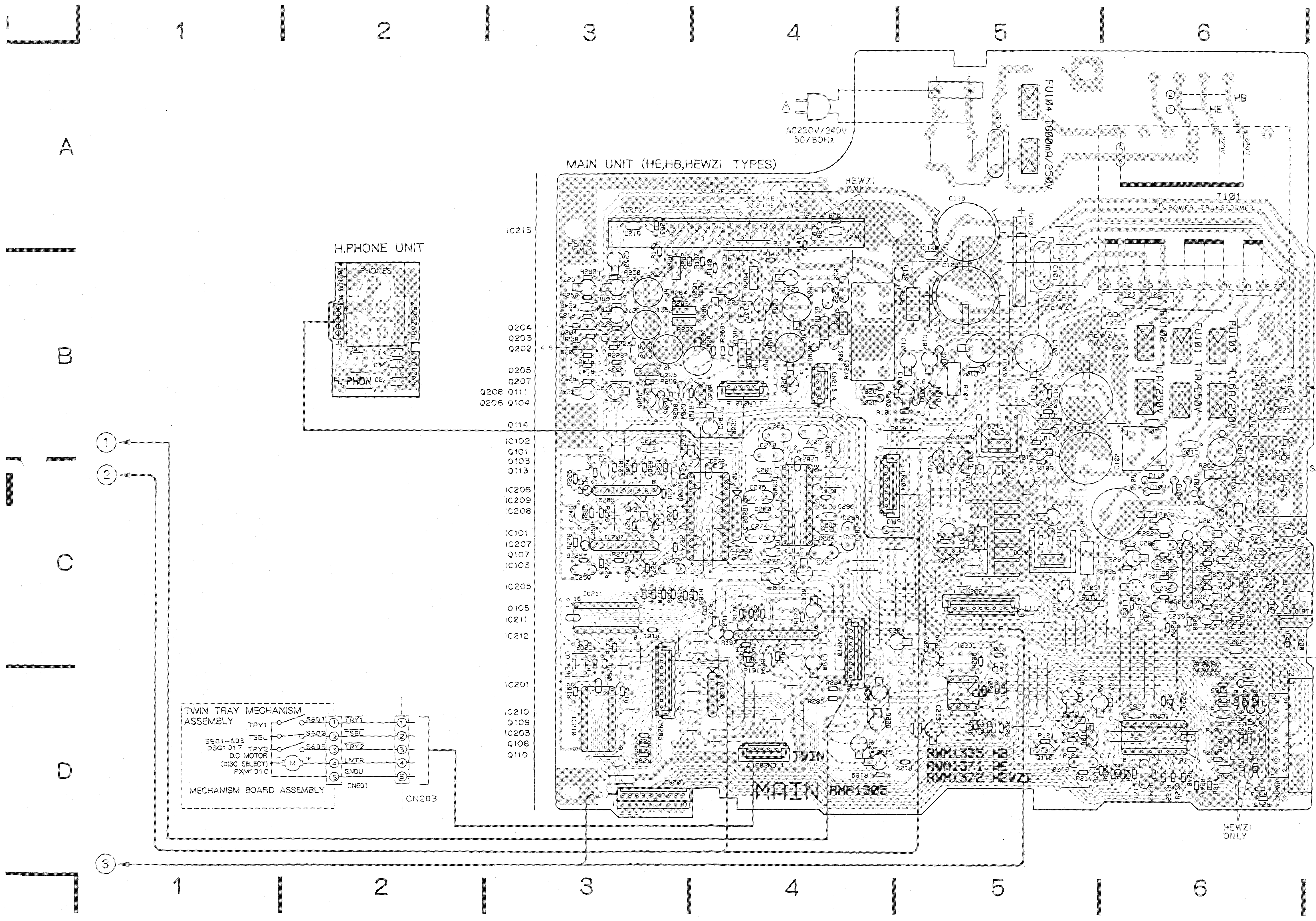
	HB, HE	OTHERS
#1	OPEN	SHORT
#2	DIODE	SHORT
#3	SHORT	OPEN


HB, HE ONLY
Q302
HB, HE ONLY
Q308 Q305
Q303
IC401
Q401
Q311 IC302 Q312
Q301 Q307
Q306
Q304 IC402
HEWZI ONLY
Q310
IC301 Q309
IC303
IC304
TC301
VR302
VR303
VR403 VR402
VR451 VR452
VR301
HB, HE ONLY
HEWZI ONLY
HB, HE ONLY
EXCEPT HEWZI
HEWZI
YPW, SD
HB, HE, HEWZI
FM UNBAL 75 Ω
HEWZI ONLY
AM LOOP ANTENNA
EXCEPT HEWZI
TUN LEV ADJ
PIL VCO ADJ
DET OUT AF
TUN IND
L306 12V
AM IN
V REF
AM LOC OSC
HB, HE ONLY
FM FRONTEND
FM LCC
FER
S301
SD ONLY
CHANNEL STEP
CN401
GND
RWZ2213 /YPW
RWZ2212 /SD
RWZ2211 /HEWZI
RWZ2094 /HB, HE
RNZ1938
CDTX
CDTX UNIT
PICKUP ASSEMBLY
PEA1030
FOCUS COIL
FAR
NEAR
OUTSIDE
INSIDE
TRACKING COIL
VR1 3.3K
LD POWER
PCP1008
C1001
MD
LD
SERVO MECHANISM ASSEMBLY
INSIDE SW
PSH1003
D.C.MOTOR ASSEMBLY (SPINDLE)
PEA1028
D.C.MOTOR (CARRIAGE)
PXM1013
J1001
CN1001
RWZ2231
RNZ1942
FCON
CMK-54X
FCON UNIT
CN1101
J1101
RWZ2235
RNZ1943
MCON
CMK-54XT
MCON

HB, HE	OTHERS
OPEN	USED

YPW, HEWZI	OTHERS
OPEN	USED


7
8
9
10
11
12
A
B
C
D
IC303
IC304
IC404
IC504
IC501
IC403
HEWZI ONLY
MVOL UNIT
RNZ1940 RWZ2096
MVOL
REMOTE SENSOR
POWER
SMART OPE
STAT/SET
MEMRY
DISCO
HALL
BGM
MODE
SFC CLR
TUNER
TAPE
CD
VIDEO PHONO
FREQ/ST
BAND
WAKE UP
REC
CLK ADJ
DISP
TIMR SET
AM-NR /MONO
MEMRY A-PRST
DISC1
DISC2
O/C1
O/C2
FRNT UNIT
RNP1307-A
RWZ2095
RNZ1939
FRNT
RANDM
HI-LITE SCAN
REPEAT
AUTO-EJCT
PRGM
CN1101
J1101
RWZ2235
RNZ1943
MCON
MCON UNIT
CMK-54XT
①
②
③



1
2
3
4
5
6
A
B
C
D
MAIN UNIT (HE,HB,HEWZI TYPES)
H.PHONE UNIT
PHONES
H. PHON
AC220V/240V
50/60Hz
FU104 T800mA/250V
HB
HE
T101
POWER TRANSFORMER
HEWZI ONLY
EXCEPT HEWZI
FU102
FU101 T1A/250V
FU103 T1.6A/250V
SPEAKER
PHONES
TAPE
IC213
Q204
Q203
Q202
Q205
Q207
Q208 Q111
Q206 Q104
Q114
IC102
Q101
Q103
Q113
IC206
IC209
IC208
IC101
IC207
Q107
IC103
IC205
Q105
IC211
IC212
IC201
IC210
Q109
IC203
Q108
Q110
TWIN TRAY MECHANISM ASSEMBLY
S601
S602
S603
TRY1
TSEL
TRY2
S601–603 DSG1017
D.C MOTOR (DISC SELECT) PXM1010
LMTR
GNDU
MECHANISM BOARD ASSEMBLY
CN601
CN203
①
②
③
TWIN
MAIN RNP1305
RWM1335 HB
RWM1371 HE
RWM1372 HEWZI

LINE VOLTAGE SELECTION FOR HE, HB, AND HEWZI TYPES

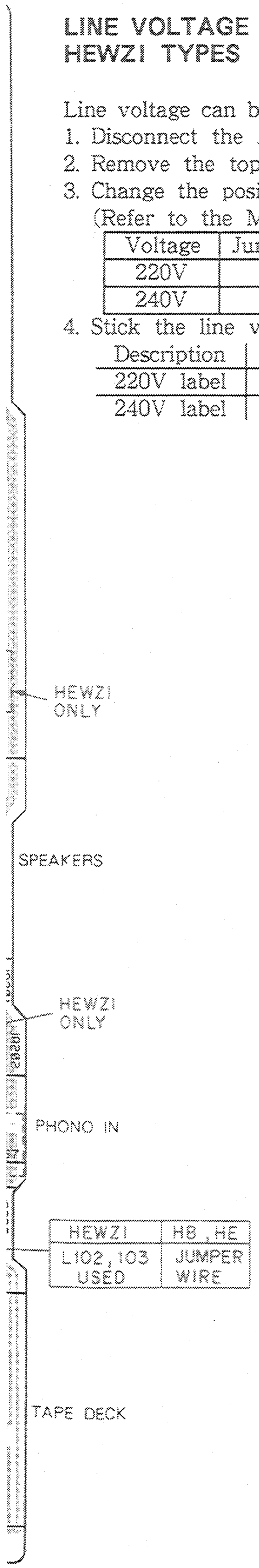
Line voltage can be changed with the following steps.

1. Disconnect the AC power cord.
2. Remove the top cover.
3. Change the position of the jumper wire as follows (Refer to the MAIN unit).

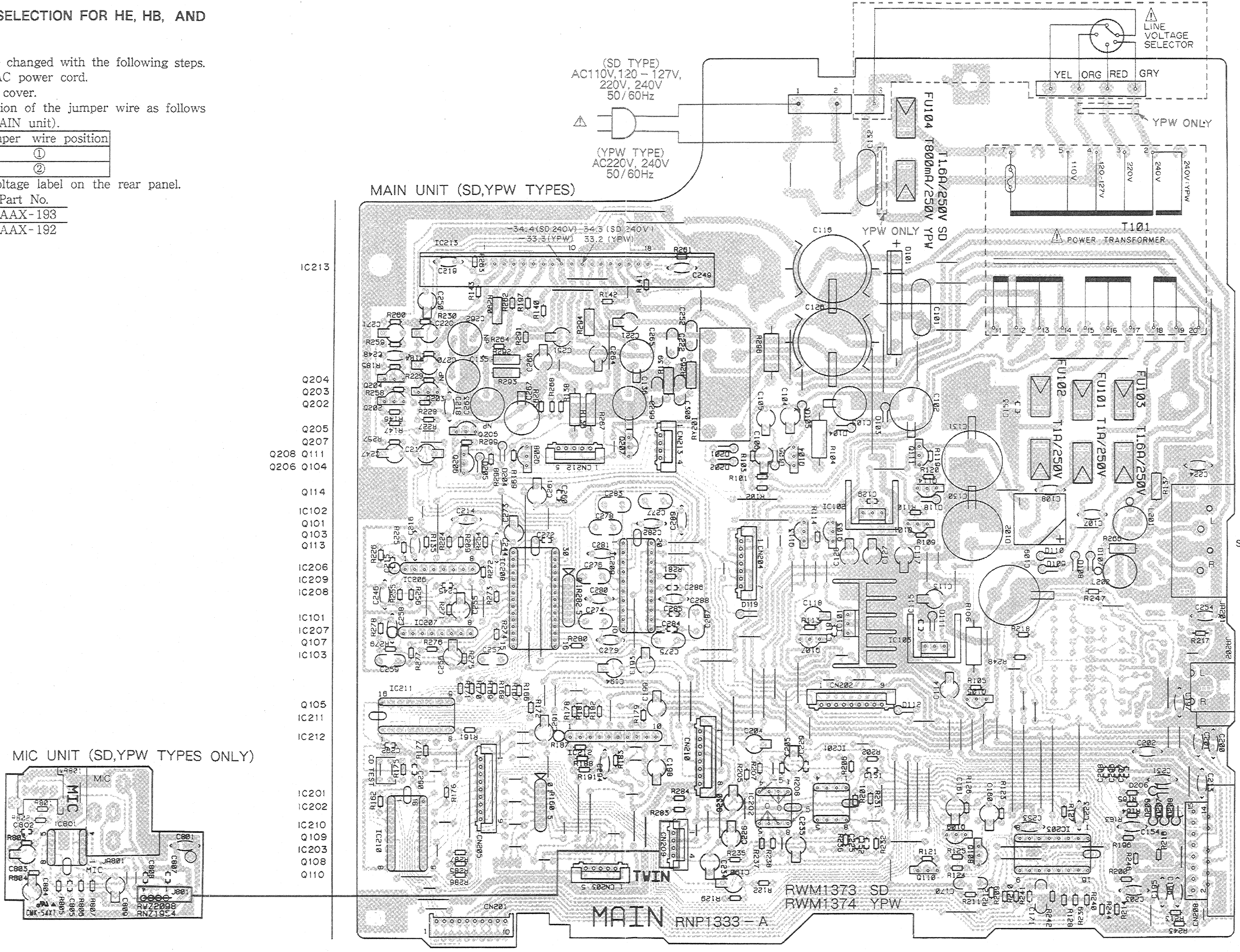
Voltage	Jumper wire position
220V	①
240V	②

4. Stick the line voltage label on the rear panel.

Description	Part No.
220V label	AAX-193
240V label	AAX-192


HEWZI ONLY
SPEAKERS
HEWZI ONLY
PHONO IN
TAPE DECK

HEWZI	HB, HE
L102, 103 USED	JUMPER WIRE


SD ONLY
LINE VOLTAGE SELECTOR
YEL
ORG
RED
GRY
YPW ONLY
(SD TYPE)
AC110V, 120 – 127V,
220V, 240V
50/60Hz
(YPW TYPE)
AC220V, 240V
50/60Hz
FU104 T1.6A/250V SD
T800mA/250V YPW
YPW ONLY
110V
120-127V
220V
240V
240V:YPW
T101
POWER TRANSFORMER
MAIN UNIT (SD,YPW TYPES)
-34.4(SD 240V) -34.3(SD 240V)
-33.3(YPW) 33.2(YPW)
FU102 T1A/250V
FU101 T1A/250V
FU103 T1.6A/250V
SPEAKERS
VIDEO
TAPE DECK
IC213
Q204
Q203
Q202
Q205
Q207
Q208 Q111
Q206 Q104
Q114
IC102
Q101
Q103
Q113
IC206
IC209
IC208
IC101
IC207
Q107
IC103
Q105
IC211
IC212
IC201
IC202
IC210
Q109
IC203
Q108
Q110
MIC UNIT (SD,YPW TYPES ONLY)
MIC
TWIN
MAIN RNP1333-A
RWM1373 SD
RWM1374 YPW
CN201
CN205

A

B

C

D

LINE VOLTAGE SELECTION FOR HE, HB, AND HEWZI TYPES

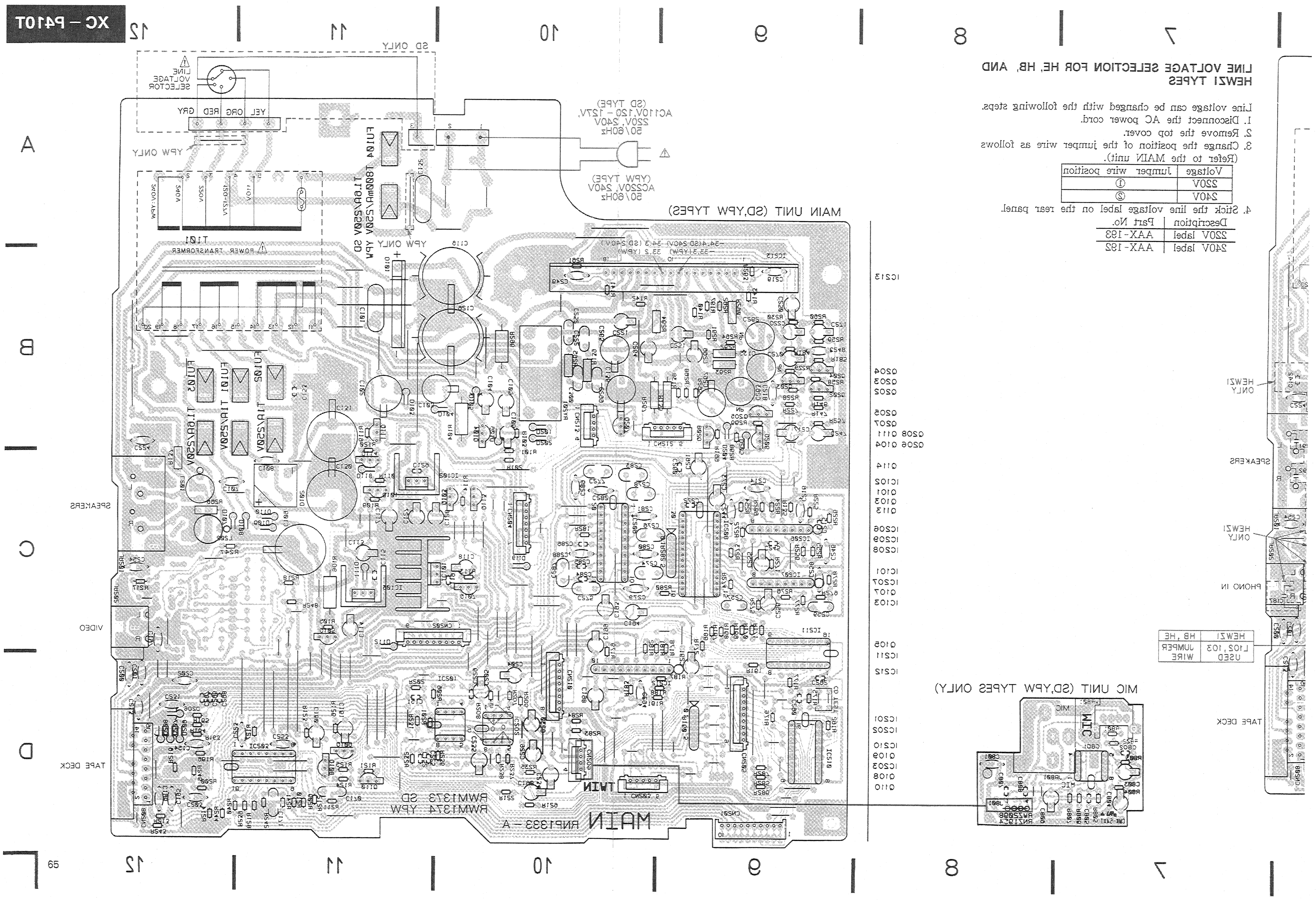
Line voltage can be changed with the following steps.

1. Disconnect the AC power cord.
2. Remove the top cover.
3. Change the position of the jumper wire as follows (Refer to the MAIN unit).

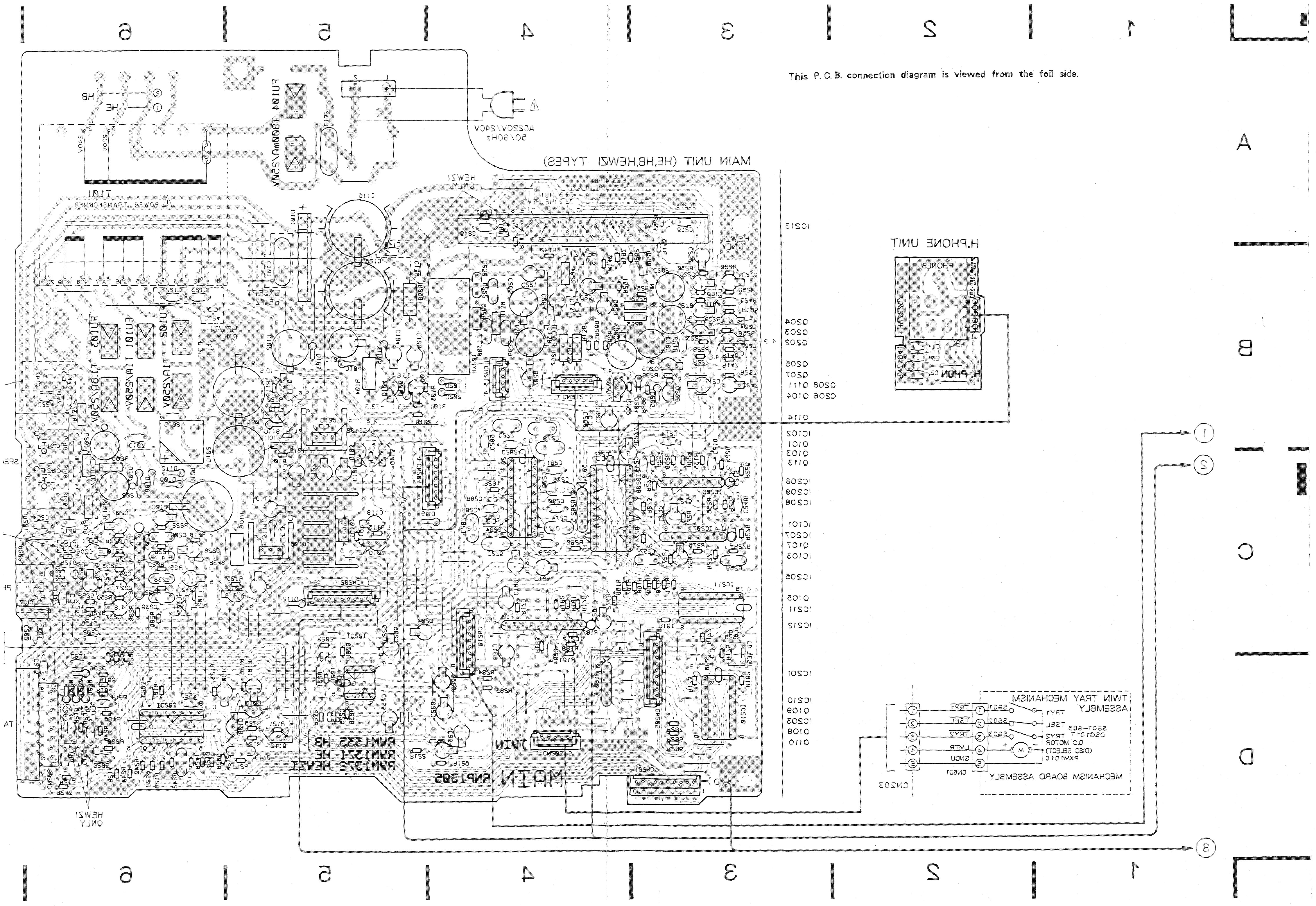
Voltage	Jumper wire position
220V	①
240V	②

4. Stick the line voltage label on the rear panel.

Description	Part No.
220V label	AAX-183
240V label	AAX-182


12
11
10
9
8
7
A
B
C
D
SD ONLY
LINE VOLTAGE SELECTOR
GRY RED ORG YEL
YPW ONLY
(SD TYPE) AC110V,120 – 127V, 220V, 240V 50/60Hz
(YPW TYPE) AC220V, 240V 50/60Hz
MAIN UNIT (SD,YPW TYPES)
T101 POWER TRANSFORMER
FU104 T1.6A/250V SD / T800mA/250V YPW
FU101 T1A/250V
FU105 T1.6A/250V
FU106 T1A/250V
SPEAKERS
VIDEO
TAPE DECK
PHONO IN
HEWZI ONLY
MAIN RNP1333 – A
RWM1373 SD
RWM1374 YPW
TWIN
MIC UNIT (SD,YPW TYPES ONLY)
MIC
HEWZI | HB, HE
L102,103 USED | JUMPER WIRE
IC213
Q204 Q203 Q202
Q205 Q207 Q208 Q111 Q206 Q104
Q114
IC102 Q101 Q103 Q113
IC206 IC209 IC208
IC101 IC207 Q107 Q103
Q105 IC211
IC212
IC201 IC202
IC210 Q109 IC203 Q108 Q110

This P. C. B. connection diagram is viewed from the foil side.


6
5
4
3
2
1
A
B
C
D
MAIN UNIT (HE,HB,HEWZI TYPES)
H.PHONE UNIT
PHONES
TWIN TRAY MECHANISM ASSEMBLY
MECHANISM BOARD ASSEMBLY
AC220V/240V 50/60Hz
T101 POWER TRANSFORMER
MAIN
RNP1305
RWM1335 HB
RWM1371 HE
RWM1372 HEWZI
TWIN
HEWZI ONLY
EXCEPT HEWZI
IC213
Q204
Q203
Q202
Q205
Q207
Q208 Q111
Q206 Q104
Q114
IC102
Q101
Q103
Q113
IC206
IC209
IC208
IC101
IC207
Q107
IC103
IC205
Q105
IC211
IC212
IC201
IC210
Q109
IC203
Q108
Q110
CN203
CN601
S601
S602
S603
TRY1
TSEL
TRY2
LMTR
GNDU
S601~603 TSEL
DSG1017 TRY2
D.C MOTOR (DISC SELECT) PXM1010
①
②
③

6. P. C. B's PARTS LIST

6.1 XC-P410M

NOTES :

- Parts without part number cannot be supplied.
- Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5 %, and K = 10 %).

560 Ω → 56 × 10^1 → 561 ………………………… RD1/4PS$\boxed{5}\boxed{6}\boxed{1}$J
47k Ω → 47 × 10^3 → 473 ………………………… RD1/4PS$\boxed{4}\boxed{7}\boxed{3}$J
0.5 Ω → 0R5 ………………………… RN2H$\boxed{0}\boxed{R}\boxed{5}$K
1 Ω → 010 ………………………… RS1P$\boxed{0}\boxed{1}\boxed{0}$K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω → 562 × 10^1 → 5621 ………………………… RN1/4SR$\boxed{5}\boxed{6}\boxed{2}\boxed{1}$F

LOADING BOARD ASSEMBLY

SWITCHES

Mark	NO	Description	Part NO.
	S601, 602	PUSH SWITCH (LPS (1,2))	DSG1016

SELECT BOARD ASSEMBLY

SWITCHES

Mark	NO	Description	Part NO.
	S603-606	PUSH SWITCH (MZS (1,2),DCHM,DCNT)	DSG1016

MOTOR BOARD ASSEMBLY

There is not supplied parts in this unit.

MAIN UNIT

SEMICONDUCTORS

Mark	NO	Description	Part NO.
⚠	IC101	REGULATOR IC	NJM78M05FA
⚠	IC102	REGULATOR IC	NJM79M05FA
⚠	IC103	REGULATOR IC	NJM78M05FA
	IC201	OP-AMP IC	BA15218
	IC203	LOGIC IC	BU4052B
(#5)	IC205	IC	BA15218N
	IC206, 207	IC	BA15218N
	IC208		PA0049
	IC209	GEQ IC	LA3607
	IC210	LOGIC IC	TC4051BP
	IC211	LOGIC IC	BU2040
⚠	IC212		TA8410AK(V18)
⚠	IC213	AUDIO IC	STK4142-2GP
⚠	Q101	TRANSISTOR	2SA1286
	Q103	TRANSISTOR	DTC124ES
⚠	Q104	TRANSISTOR	2SA1283
⚠	Q105	TRANSISTOR	2SA1287
⚠	Q107	TRANSISTOR	2SA1286
	Q108, 109	TRANSISTOR	2SD2144S
	Q110	TRANSISTOR	2SA933S
⚠	Q111	TRANSISTOR	2SC3246
	Q113	DIGITAL TRANSISTOR	DTC143XS
	Q114	TRANSISTOR	DTC124ES
	Q202	TRANSISTOR	2SA933S
	Q203, 204	TRANSISTOR	2SD2144S
	Q205	TRANSISTOR	2SC1740S
	Q206	TRANSISTOR	2SA933S
⚠	Q207	TRANSISTOR	2SC1741AS
	Q208	TRANSISTOR	DTA124ES
⚠	D101		D3SBA20
⚠	D102		S2VB20
⚠	D103, 104	DIODE	1SR139-100
⚠	D105	ZENER DIODE	MTZJ33B
⚠	D106	ZENER DIODE	MTZ10B
⚠	D107-110	DIODE	1SR139-100
	D111	DIODE	1SS254
⚠	D112	DIODE	1SR139-100
	D118	DIODE	1SS254
	D119	DIODE	1SR139-100
	D201, 202	DIODE	1SS254
	D204, 205	DIODE	1SS254
	D206-208	ZENER DIODE	MTZ8.2B
	D209	DIODE	1SS254

RELAY

Mark	NO	Description	Part NO.
⚠	RY201	RELAY	ASR1005

COILS

Mark	NO	Description	Part NO.
(#3)	L102, 103	AXIAL INDUCTOR	LAU2R2M
(#4)	L201, 202	COIL	ATH-133
(#3)	L201, 202	COIL	ATH-059

CAPACITORS

Mark	NO	Description	Part NO.
(#4)⚠	C101	CAPACITOR (CERAMIC) (0.01μF)	RCG-009
⚠	C102	ELECTROLYTIC CAPACIT (47/100)	RCH1051
	C103	ELECTROLYTIC CAPACIT	CEAS330M100

Note : (# 1) HE and HB types
(# 2) KU and KC types
(# 3) HEWZI type
(# 4) HE,HB,KU and KC types
(# 5) HE,HB and HEWZI types

Mark	No.	Description	Part No.
	C104-106	ELECTROLYTIC CAPACIT	CEAS330M35
	C107, 108	CERAMIC CAPACITOR	CKCYF103Z50
⚠	C109	ELECTR. CAPACITOR	CEAS332M35
	C113	ELECTR. CAPACITOR	CEAS100M50
	C114	ELECTR. CAPACITOR	CEAS470M10
	C115	CERAMIC CAPACITOR	CKPUYF103Z25
(#5) ⚠	C116	ELECTROLYTIC CAPACIT (2200/42)	ACH1140
(#2) ⚠	C116	ELECTROLYTIC CAPACIT (3300/42)	RCH1050
	C117	ELECTR. CAPACITOR	CEAS100M50
	C118	ELECTR. CAPACITOR	CEAS470M10
	C119	CERAMIC CAPACITOR	CKPUYF103Z25
(#3)	C122, 123	CERAMIC CAPACITOR	CKCYF103Z50
(#3)	C124	CERAMIC CAPACITOR	CKPUYF103Z25
(#5) ⚠	C126	ELECTROLYTIC CAPACIT (2200/42)	ACH1140
(#2) ⚠	C126	ELECTROLYTIC CAPACIT (3300/42)	RCH1050
	C127	ELECTR. CAPACITOR	CEAS100M50
	C128	ELECTR. CAPACITOR	CEAS470M10
	C129	CERAMIC CAPACITOR	CKPUYF103Z25
⚠	C130	ELECTROLYTIC CAPACIT	CEAS682M16
⚠	C131	ELECTROLYTIC CAPACIT	CEAS472M16
⚠	C132	CAPACITOR (CERAMIC) (0.01 μF)	RCG-009
	C135	ELECTROLYTIC CAPACIT	CEANP470M50
	C136	ELECTR. CAPACITOR	CEAS101M50
(#3)	C137, 138	AXIAL CAPACITOR	CKPUYB101K50
(#3)	C139, 140	CERAMIC CAPACITOR	CKCYF473Z50
(#3)	C142	AXIAL CAPACITOR	CKPUYB101K50
(#3)	C144	AXIAL CAPACITOR	CKPUYB101K50
(#3)	C145, 146	CERAMIC CAPACITOR	CKCYF473Z50
(#3)	C147-150	CERAMIC CAPACITOR	CKDYF103Z50
	C151, 152	AXIAL CAPACITOR	CKPUYB101K50
	C153	CERAMIC CAPACITOR	CKPUYF103Z25
(#4)	C154	CERAMIC CAPACITOR	CKCYF103Z50
(#3)	C154	CERAMIC CAPACITOR	CKDYF103Z50
(#3)	C155, 156	CERAMIC CAPACITOR	CKPUYF103Z25
	C160, 161	ELECTR. CAPACITOR	CEAS2R2M50
	C170, 171	MYLOR FILM CAPACITOR	CQMA471K50
(#3)	C187	CERAMIC CAPACITOR	CKDYF473Z50
(#3)	C188	AXIAL CAPACITOR	CKPUYB471K50
(#3)	C189	CERAMIC CAPACITOR	CKPUYX222M16
	C190	ELECTR. CAPACITOR	CEAS010M50
(#3)	C191, 192	CERAMIC CAPACITOR	CKDYF103Z50
	C193, 194	ELECTR. CAPACITOR	CEAS2R2M50
	C195, 196	AXIAL CAPACITOR	CKPUYB471K50
(#4)	C197	CERAMIC CAPACITOR	CKCYF103Z50
(#3)	C197	CERAMIC CAPACITOR	CKDYF103Z50
	C198, 199	ELECTR. CAPACITOR	CEAS330M16

Mark	No.	Description	Part No.
	C200, 201	CERAMIC CAPACITOR	CKCYF473Z50
	C202	CERAMIC CAPACITOR	CKCYF103Z50
	C203	CERAMIC CAPACITOR	CKCYF473Z50
	C204, 205	ELECTR. CAPACITOR	CEAS010M50
(#5)	C206	ELECTR. CAPACITOR	CEAS010M50
(#5)	C207	ELECTR. CAPACITOR	CEAS100M50
(#5)	C208	MYLOR FILM CAPACITOR	CQMA152J50
(#5)	C209	MYLOR FILM CAPACITOR	CQMA562J50
(#5)	C210, 211	AXIAL CAPACITOR	CKPUYB101K50
(#5)	C212	ELECTR. CAPACITOR	CEAS010M50
	C213	CERAMIC CAPACITOR	CKCYF103Z50
	C214	CERAMIC CAPACITOR	CKCYB682K50
	C215	CERAMIC CAPACITOR	CKPUYB102K50
	C216	CERAMIC CAPACITOR	CKCYB562K50
	C217	ELECTR. CAPACITOR	CEAS2R2M50
	C218	CERAMIC CAPACITOR	CKCYB122K50
	C219	CERAMIC CAPACITOR	CCCSL470J50
	C220	ELECTR. CAPACITOR	CEAS101M10
	C221	ELECTR. CAPACITOR	CEAS101M25
	C222	MYLOR FILM CAPACITOR	CQMA104K50
	C223	CERAMIC CAPACITOR	CKCYF103Z50
(#4)	C224	CERAMIC CAPACITOR	CKCYF473Z50
(#3)	C224	CERAMIC CAPACITOR	CKDYF473Z50
	C225	CERAMIC CAPACITOR	CKPUYF103Z25
	C226	ELECTR. CAPACITOR	CEAS470M10
(#5)	C227, 228	ELECTR. CAPACITOR	CEAS470M10
	C229	CERAMIC CAPACITOR	CKPUYF103Z25
	C230	ELECTR. CAPACITOR	CEAS470M10
	C231	CERAMIC CAPACITOR	CKCYF473Z50
(#3)	C232, 233	AXIAL CAPACITOR	CKPUYB471K50
	C234, 235	ELECTR. CAPACITOR	CEAS010M50
(#5)	C236	ELECTR. CAPACITOR	CEAS010M50
(#5)	C237	ELECTR. CAPACITOR	CEAS100M50
(#5)	C238	MYLOR FILM CAPACITOR	CQMA152J50
(#5)	C239	MYLOR FILM CAPACITOR	CQMA562J50
(#5)	C240, 241	AXIAL CAPACITOR	CKPUYB101K50
(#5)	C242	ELECTR. CAPACITOR	CEAS010M50
(#3)	C243	CERAMIC CAPACITOR	CKDYB682K50
	C244	CERAMIC CAPACITOR	CKCYB682K50
	C245	CERAMIC CAPACITOR	CKPUYB102K50
	C246	CERAMIC CAPACITOR	CKCYB562K50
	C247	ELECTR. CAPACITOR	CEAS2R2M50
	C248	CERAMIC CAPACITOR	CKCYB122K50
	C249	CERAMIC CAPACITOR	CCCSL470J50
	C250	ELECTR. CAPACITOR	CEAS101M10
	C251	ELECTR. CAPACITOR	CEAS101M25
	C252	MYLOR FILM CAPACITOR	CQMA104K50
	C253	CERAMIC CAPACITOR	CKCYF103Z50
(#4)	C254	CERAMIC CAPACITOR	CKCYF473Z50
(#3)	C254	CERAMIC CAPACITOR	CKDYF473Z50
	C255	ELECTR. CAPACITOR	CEASR47M50
	C256	ELECTR. CAPACITOR	CEAS100M50
	C257	MYLOR FILM CAPACITOR	CQMA104K50
	C258	CERAMIC CAPACITOR	CKPUYF223Z25
	C259	AUDIO FILM CAPACITOR	CFTXA474J50

Note : (# 1) HE and HB types
(# 2) KU and KC types
(# 3) HEWZI type
(# 4) HE,HB,KU and KC types
(# 5) HE,HB and HEWZI types

Mark	No.	Description	Part No.
	C260	CERAMIC CAPACITOR	CKPUYF103Z25
	C261	ELECTR. CAPACITOR	CEAS470M10
	C262	ELECTROLYTIC CAPACIT	CEANP470M50
	C263	ELECTR. CAPACITOR	CEANP100M50
	C264	ELECTR. CAPACITOR	CEAS100M50
	C265	ELECTR. CAPACITOR	CEAS101M50
	C266	ELECTR. CAPACITOR	CEAS100M50
	C267	ELECTROLYTIC CAPACIT	CEAS471M6R3
(#3)	C268, 269	AXIAL CAPACITOR	CKPUYB471K50
	C270, 271	ELECTR. CAPACITOR	CEAS2R2M50
	C272	CERAMIC CAPACITOR	CKPUYF103Z25
	C273	ELECTR. CAPACITOR	CEAS470M10
	C274	MYLOR FILM CAPACITOR	CQMA273K50
	C275	MYLOR FILM CAPACITOR	CQMA393K50
	C276	MYLOR FILM CAPACITOR	CQMA683K50
	C277	MYLOR FILM CAPACITOR	CQMA104K50
	C278	AUDIO FILM CAPACITOR	CFTXA184J50
	C279	CERAMIC CAPACITOR	CKCYB182K50
	C280	CERAMIC CAPACITOR	CKCYB272K50
	C281	CERAMIC CAPACITOR	CKCYB472K50
	C282	CERAMIC CAPACITOR	CKCYB822K50
	C283	MYLOR FILM CAPACITOR	CQMA123K50
	C284	CERAMIC CAPACITOR	CKPUYB102K50
	C285, 286	AXIAL CAPACITOR	CKPUYB561K50
	C287	MYLOR FILM CAPACITOR	CQMA153K50
	C288	CERAMIC CAPACITOR	CKCYB822K50
	C289	CERAMIC CAPACITOR	CKCYB272K50
	C290	CERAMIC CAPACITOR	CKPUYF103Z25
	C291	ELECTR. CAPACITOR	CEAS470M10
	C292	CERAMIC CAPACITOR	CKPUYF103Z25
(#3)	C293	CERAMIC CAPACITOR	CKDYB682K50
	C294, 295	CERAMIC CAPACITOR	CKCYF473Z50
	C296-298	AXIAL CAPACITOR	CKPUYB101K50
	C299, 300	MYLOR FILM CAPACITOR	CQMA104K50

RESISTORS

Mark	No.	Description	Part No.
(#2)	R1	CARBON FILM RESISTOR	RD1/2PM225J
⚠	R104, 106		RS1LF222J
(#3)	R107, 108	CARBON FILM RESISTOR	RD1/4PMF100J
⚠	R136	METAL OXIDE RESISTOR	RS1PMF331J
(#4)⚠	R137	CARBON FILM RESISTOR	RD1/4LF100J
(#3)⚠	R137	CARBON FILM RESISTOR	RD1/4LF101J
⚠	R139	CARBON FILM RESISTOR	RD1/4PMF100J
	R140, 142	(22K)	RCN1030
	R160	RESISTOR ARRAY (10K)	RA6T103J
(#5)	R173	CARBON FILM RESISTOR	RD1/6PM223J
(#2)	R176	CARBON FILM RESISTOR	RD1/6PM223J
	R188, 189	(22Ω)	RCN1031
	R197	(100Ω)	RCN1035
(#2)	R217	CARBON FILM RESISTOR	RD1/6PM243J
(#2)	R218	CARBON FILM RESISTOR	RD1/6PM753J
(#5)	R218	CARBON FILM RESISTOR	RD1/6PM393J
(#5)	R219	CARBON FILM RESISTOR	RD1/6PM102J
(#5)	R220	CARBON FILM RESISTOR	RD1/6PM182J
(#5)	R221	CARBON FILM RESISTOR	RD1/6PM473J
(#5)	R222	CARBON FILM RESISTOR	RD1/6PM564J
(#5)	R223	CARBON FILM RESISTOR	RD1/6PM473J
(#2)	R247	CARBON FILM RESISTOR	RD1/6PM243J
(#2)	R248	CARBON FILM RESISTOR	RD1/6PM753J
(#5)	R248	CARBON FILM RESISTOR	RD1/6PM393J
(#5)	R249	CARBON FILM RESISTOR	RD1/6PM102J
(#5)	R250	CARBON FILM RESISTOR	RD1/6PM182J
(#5)	R251	CARBON FILM RESISTOR	RD1/6PM473J
(#5)	R252	CARBON FILM RESISTOR	RD1/6PM564J
(#5)	R253	CARBON FILM RESISTOR	RD1/6PM473J
	R262, 264	(22K)	RCN1030
⚠	R265	CARBON FILM RESISTOR	RD1/4PMF100J
(#4)⚠	R266	CARBON FILM RESISTOR	RD1/4LF100J
(#3)⚠	R266	CARBON FILM RESISTOR	RD1/4LF101J
⚠	R267	METAL OXIDE RESISTOR	RS1PMF331J
	R282	RESISTOR ARRAY (22K)	RA6T223J
(#5)	R288, 289	CARBON FILM RESISTOR	RD1/6PM101J
⚠	R290	CARBON FILM RESISTOR	RD1/4LF471J
	R291	(1K)	RCN1032
⚠	R292, 293	CARBON FILM RESISTOR	RD1/4LF222J
⚠	R294	CARBON FILM RESISTOR	RD1/4LF101J
⚠	R296	METAL OXIDE RESISTOR	RS2LF681J
	Other resistors		RD1/6PM□□□J

OTHERS

Mark	No.	Description	Part No.
	JA201	SPEAKER TERMINAL 4-P (SPEAKERS)	RKE1003
	CN201		10MQ-ST
	CN208	SOCKET(15P) (TAPE DECK)	AKP1076
	JA202	PIN JACK(2P)(VIDEO)	AKB1059

CDTX UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC301	PLL IC	LM7001
	IC302	AM/FM IC	LA1265S
	IC303	MPX IC	AN7470P
⚠	IC304	REGULATOR IC	NJM78M12FA
	IC401	PRE AMP IC	CXA1471S
	IC402	SERVO IC	CXA1372Q
	IC403	EFM DEMODULATION IC	CXD2500Q
⚠	IC404	I. C. (BIPOLAR)	TA8449P
	IC501		TC9237N
	IC504	OP-AMP IC	NJM4560D
	Q301	TRANSISTOR	2SC2668
(#1)	Q302, 303	TRANSISTOR	DTC124ES
	Q304	TRANSISTOR	DTA143ES
(#1)	Q305	TRANSISTOR	DTA143ES
	Q306	TRANSISTOR	2SC1740S

Note : (# 1) HE and HB types
(# 2) KU and KC types
(# 3) HEWZI type
(# 4) HE,HB,KU and KC types
(# 5) HE,HB and HEWZI types

Mark	No.	Description	Part No.
	Q307	N-FET	2SK246
(#3	Q308	TRANSISTOR	DTA143ES
	Q309	TRANSISTOR	2SC1740S
(#3)	Q310	TRANSISTOR	2SC1740S
	Q311	TRANSISTOR	DTC124ES
	Q312	TRANSISTOR	DTA143ES
	Q401	TRANSISTOR	2SA854S
(#1)	D301, 302	DIODE	1SS254
	D304-309	DIODE	1SS254
(#1)	D310	DIODE	1SS254
(#1)	D311, 312	DIODE	1SS85
(#1)	D313	DIODE	1SS254
	D314-317	DIODE	1SS254
	D401	ZENNER DIODE	MTZJ6. 2B/C
	D402-406	DIODE	1SS254

COILS AND FILTERS

Mark	No.	Description	Part No.
(#3)	L303	AXIAL INDUCTOR	LAU220K
(#3)	L304	AXIAL INDUCTOR	LAU2R2M
	L305	COIL	ATE-079
	L306, 308	AXIAL INDUCTOR	LAU680K
	L310, 311	AXIAL INDUCTOR	LAU2R2M
	L401	AXIAL INDUCTOR	LAU2R2M
	L501	AXIAL INDUCTOR	LAU680K
	L502	AXIAL INDUCTOR	LAU2R2M
(#4)	F301	CERAMIC FILTER	ATF-107
(#3)	F301	CERAMIC FILTER	ATF-119
	F302	CERAMIC FILTER	ATF-208
	F303	CERAMIC FILTER	ATF-107
(#3)	F304	CERAMIC FILTER	ATF-146

CAPACITORS

Mark	No.	Description	Part No.
(#3)	TC301	CERAMIC TRIMMER	ACM-018
	C301	CERAMIC CAPACITOR	CKPUYF223Z25
(#3)	C303	AXIAL CERAMIC C.	CCPUCH150J50
	C305	MYLOR FILM CAPACITOR	CQMA104K50
	C306	ELECTR. CAPACITOR	CEAS330M16
	C307, 308	CERAMIC CAPACITOR	CKPUYF103Z25
	C310	CERAMIC CAPACITOR	CKPUYF103Z25
	C314	ELECTR. CAPACITOR	CEAS330M16
	C315	AUDIO FILM CAPACITOR	CFTXA224J50
	C316	MYLOR FILM CAPACITOR	CQMA103K50
	C318	ELECTR. CAPACITOR	CEAS470M10
	C319	CERAMIC CAPACITOR	CKPUYF103Z25
	C320	ELECTR. CAPACITOR	CEAS330M16
	C321, 322	AXIAL CERAMIC C.	CCPUCH150J50
	C323	CERAMIC CAPACITOR	CKCYF473Z50
	C324-327	CERAMIC CAPACITOR	CKPUYF223Z25
(#1)	C328	CERAMIC CAPACITOR	CKPUYF223Z25
	C329	CERAMIC CAPACITOR	CKPUYF103Z25
	C330	ELECTR. CAPACITOR	CEAS330M16
	C331	CERAMIC CAPACITOR	CKPUYF103Z25
	C332	ELECTROLYTIC CAPACIT	CEASR10M50
	C333	AXIAL CAPACITOR	CKPUYB221K50
	C334	ELECTR. CAPACITOR	CEAS010M50
	C335	CERAMIC CAPACITOR	CKCYF473Z50
	C336	CERAMIC CAPACITOR	CKPUYX222M16

Mark	No.	Description	Part No.
	C337	ELECTR. CAPACITOR	CEAS2R2M50
	C338	ELECTR. CAPACITOR	CEAS330M16
	C339, 340	ELECTR. CAPACITOR	CEAS4R7M50
	C341	CERAMIC CAPACITOR	CCCSL470J50
	C342	CERAMIC CAPACITOR	CKPUYF103Z25
	C343	ELECTR. CAPACITOR	CEAS100M50
	C344, 345	CERAMIC CAPACITOR	CKPUYF103Z25
	C347	ELECTR. CAPACITOR	CEAS330M16
	C348	CERAMIC CAPACITOR	CKPUYF103Z25
	C349	ELECTR. CAPACITOR	CEAS330M16
	C350	ELECTR. CAPACITOR	CEANP010M50
(#5)	C351, 352	MYLOR FILM CAPACITOR	CQMA122K50
(#2)	C351, 352	MYLOR FILM CAPACITOR	CQMA152K50
	C353	ELECTR. CAPACITOR	CEAS330M16
	C354, 355	ELECTR. CAPACITOR	CEAS010M50
	C356	MYLOR FILM CAPACITOR	CQMA473K50
	C357	CERAMIC CAPACITOR	CKPUYF223Z25
	C358	ELECTR. CAPACITOR	CEASR47M50
	C359	ELECTR. CAPACITOR	CEAS1R5M50
	C360	ELECTR. CAPACITOR	CEAS4R7M50
	C361	PL. STYRENE CAPACITOR	CQSA471J50
(#3)	C362	AXIAL CAPACITOR	CKPUYB681K50
(#3)	C363	ELECTR. CAPACITOR	CEAS2R2M50
(#5)	C366, 367	MYLOR FILM CAPACITOR	CQMA272K50
(#2)	C366, 367	MYLOR FILM CAPACITOR	CQMA562K50
	C371, 372	CERAMIC CAPACITOR	CKPUYF223Z25
	C390	ELECTR. CAPACITOR	CEAS330M25
	C391	ELECTR. CAPACITOR	CEAS330M16
	C401, 402	ELECTR. CAPACITOR	CEAS470M10
	C403	CERAMIC CAPACITOR	CCCCH200J50
	C404	ELECTR. CAPACITOR	CEAS470M10
	C405, 410	CERAMIC CAPACITOR	CKPUYF103Z25
	C421	MYLOR FILM CAPACITOR	CQMA473J50
	C422	CERAMIC CAPACITOR	CKCYB152K50
	C423	ELECTR. CAPACITOR	CEAS101M10
	C424	ELECTR. CAPACITOR	CEASR47M50
	C425	MYLOR FILM CAPACITOR	CQMA103K50
	C426	CERAMIC CAPACITOR	CKPUYF103Z25
	C427	AXIAL CERAMIC C.	CCPUSL680J50
	C428	MYLOR FILM CAPACITOR	CQMA104K50
	C451-454	ELECTR. CAPACITOR	CEAS470M10
	C455	MYLOR FILM CAPACITOR	CQMA182K50
	C456	MYLOR FILM CAPACITOR	CQMA333K50
	C457	MYLOR FILM CAPACITOR	CQMA103K50
	C458, 459	MYLOR FILM CAPACITOR	CQMA104K50
	C460	ELECTR. CAPACITOR	CEAS4R7M50
	C461	MYLOR FILM CAPACITOR	CQMA104K50
	C462	ELECTR. CAPACITOR	CEAS010M50
	C463	MYLOR FILM CAPACITOR	CQMA104K50
	C464	MYLOR FILM CAPACITOR	CQMA103K50
	C467	CERAMIC CAPACITOR	CKPUYF103Z25
	C468	MYLOR FILM CAPACITOR	CQMA333K50
	C469	MYLOR FILM CAPACITOR	CQMA103K50
	C470	MYLOR FILM CAPACITOR	CQMA332K50

Note : (# 1) HE and HB types
(# 2) KU and KC types
(# 3) HEWZI type
(# 4) HE,HB,KU and KC types
(# 5) HE,HB and HEWZI types

Mark	No.	Description	Part No.
	C471, 472	MYLOR FILM CAPACITOR	CQMA472K50
	C473	CERAMIC CAPACITOR	CKPUYF223Z25
	C474	CERAMIC CAPACITOR	CKPUYF103Z25
	C480	AUDIO FILM CAPACITOR	CFTXA184J50
	C481	MYLOR FILM CAPACITOR	CQMA103K50
	C482, 483	AUDIO FILM CAPACITOR	CFTXA184J50
	C484	MYLOR FILM CAPACITOR	CQMA104K50
	C485, 486	ELECTR. CAPACITOR	CEAS330M16
	C501	ELECTR. CAPACITOR	CEAS220M25
	C502	CERAMIC CAPACITOR	CKPUYF103Z25
	C503, 504	CERAMIC CAPACITOR	CCDCH470J50
	C505	ELECTROLYTIC CAPACIT	CEAS331M6R3
	C506-508	CERAMIC CAPACITOR	CKPUYF103Z25
	C509	ELECTR. CAPACITOR	CEAS101M10
	C511	CERAMIC CAPACITOR	CKPUYF103Z25
	C521	AXIAL CERAMIC C.	CCPUSL560J50
	C523	AXIAL CERAMIC C	CCPUSL390J50
	C530	ELECTROLYTIC CAPACIT	CEYA100M50
	C531	AXIAL CERAMIC C	CCPUSL390J50
	C561	AXIAL CERAMIC C.	CCPUSL560J50
	C563	AXIAL CERAMIC C	CCPUSL390J50
	C564	ELECTROLYTIC CAPACIT	CEAS331M6R3
	C565	CERAMIC CAPACITOR	CKPUYF223Z25
	C566	ELECTROLYTIC CAPACIT	CEAS331M6R3
	C567	CERAMIC CAPACITOR	CKPUYF223Z25
	C570	ELECTROLYTIC CAPACIT	CEYA100M50
	C571	AXIAL CERAMIC C	CCPUSL390J50

RESISTORS

Mark	No.	Description	Part No.
	VR301	VR(4.7K)	VRTB6VS472
	VR302	VR(22K)	VRTB6VS223
	VR303	VR (4.7K)	VRTB6VS472
	VR402	VARIABLE RESISTOR(20k)	RCP1017
	VR403	VARIABLE RESISTOR(1k)	RCP1081
	VR451, 452	VARIABLE RESISTOR(20k)	RCP1017
(#1)	R316	CARBON FILM RESISTOR	RD1/6PM681J
(#1)	R320	CARBON FILM RESISTOR	RD1/6PM681J
(#5)	R322	CARBON FILM RESISTOR	RD1/6PM273J
(#2)	R322	CARBON FILM RESISTOR	RD1/6PM153J
(#3)	R348	CARBON FILM RESISTOR	RD1/6PM224J
(#3)	R349	CARBON FILM RESISTOR	RD1/6PM473J
(#3)	R350	CARBON FILM RESISTOR	RD1/6PM472J
(#3)	R351	CARBON FILM RESISTOR	RD1/6PM222J
(#3)	R352	CARBON FILM RESISTOR	RD1/6PM472J
(#1)	R374	CARBON FILM RESISTOR	RD1/6PM102J
(#1)	R375	CARBON FILM RESISTOR	RD1/6PM104J
(#1)	R376	CARBON FILM RESISTOR	RD1/6PM681J
(#1)	R377	CARBON FILM RESISTOR	RD1/6PM103J
(#1)	R379	CARBON FILM RESISTOR	RD1/6PM103J
(#2)	R379	CARBON FILM RESISTOR	RD1/6PM223J
(#3)	R380	CARBON FILM RESISTOR	RD1/6PM223J
(#2)	R380	CARBON FILM RESISTOR	RD1/6PM103J
(#1)	R381	CARBON FILM RESISTOR	RD1/6PM472J
	R447	RESISTOR ARRAY (22K)	RA4T223J
	Other resistors		RD1/6PM□□□J

Mark	No.	Description	Part No.

OTHERS

Mark	No.	Description	Part No.
	X301	CRYSTAL RESONATOR	ASS-025
	X302	CERAMIC FILTER	ATF-125
	X501	XTAL RES (OSC)	PSS1006
	CN401		5597-16CPB
	CN411		B10P-MQ-B
(#1)		AM RF TUNING BLOCK	AXX1012
(#1)		AM RF TUNING BLOCK	AXX1013
(#2)		AM RF TUNING BLOCK	AXX1011
(#3)		AM RF TUNING BLOCK	AXX1014
(#5)		ANTENNA TERMINAL	RKE1002
(#2)		ANTENNA TERMINAL 4P	RKE1001
(#4)		FM FRONT END	RWB1002
(#3)		FM FRONT END	AXF1031

FRNT UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC601		PDB026C
	IC602	LOGIC IC	BU2040
	IC603	MECHANISM DRIVER IC	TA8409S
	Q601	TRANSISTOR	2SC1740S
	D601-611	DIODE	1SS254
	D612	DIODE	1SR139-100
	D613-615	DIODE	1SS254
	D617-622		SEL3C10RLC05

SWITCHES

Mark	No.	Description	Part No.
	S601-612	SWITCH	RSG1033
		(HI-LITE SCAN, RANDOM, STOP, FREQ/ ST., BAND, TUNER(DOWN), HALL, MODE, B.G.M., TIMER(WAKE UP, REC), REPEAT)	
	S614-621	SWITCH	RSG1033
		(PAUSE, AM-NR/FM-MONO, MEMORY(AUTO PRESET), TUNER(UP), DISCO, SFC CLEAR, PHONO(#5)VIDEO(#2), DISPLAY)	
	S623-632	SWITCH	RSG1033
		(SEARCH(⏮,⏭), PLAY, DISC1, DISC2, DISC3, TUNER, CD, POWER, TIMER SET)	
	S635, 636	SWITCH	RSG1033
		(PROGRAM, EJECT)	
	S638-644	SWITCH	RSG1033
		(DISC4, DISC5, TAPE, SMART OPERATION (MEMORY, START/SET), CLOCK ADJ., DISC6)	

COILS

Mark	No.	Description	Part No.
	L601, 602	AXIAL INDUCTOR	LAU2R2M

CAPACITORS

Mark	No.	Description	Part No.
	C601, 602	CERAMIC CAPACITOR	CKPUYF103Z25
	C603	ELECTR. CAPACITOR	CEAS470M10
	C604	CERAMIC CAPACITOR	CKPUYF103Z25
	C605	CEA (47000/5.5V)	ACH1070
	C606, 607	AXIAL CERAMIC C.	CCPUCH150J50

Note : (# 1) HE and HB types
(# 2) KU and KC types
(# 3) HEWZI type
(# 4) HE,HB,KU and KC types
(# 5) HE,HB and HEWZI types

Mark	No.	Description	Part No.
	C608	CERAMIC CAPACITOR	CKPUYF103Z25
	C609, 610	ELECTR. CAPACITOR	CEAS470M10
	C611	CERAMIC CAPACITOR	CKCYF103Z50
	C612	CERAMIC CAPACITOR	CKPUYF103Z25
	C613	ELECTR. CAPACITOR	CEAS330M50
	C614, 615	CERAMIC CAPACITOR	CKCYF103Z50
	C616	ELECTR. CAPACITOR	CEAS010M50
	C617	ELECTROLYTIC CAPACIT	CEASR10M50
	C618	ELECTR. CAPACITOR	CEAS010M50
	C619	ELECTR. CAPACITOR	CEAS100M50
	C620	CERAMIC CAPACITOR	CKPUYF103Z25
	C621	ELECTR. CAPACITOR	CEAS330M16
	C622, 625	CERAMIC CAPACITOR	CKPUYF103Z25

RESISTORS

Mark	No.	Description	Part No.
	R687	RESISTOR ARRAY (47K)	RA15T473J
	Other resistors		RD1/6PM□□□J

OTHERS

Mark	No.	Description	Part No.
	V601	FLUORESCENT INDICATO	RAW1064
	X601	CERAMIC RESONATOR	VSS1031
		REMOTE SENSOR	GP1U50X

MVOL UNIT

SEMICONDUCTOR

Mark	No.	Description	Part No.
	IC701	LINEAR IC	NJM4558D

CAPACITORS

Mark	No.	Description	Part No.
	C701	AXIAL CAPACITOR	CKPUYB101K50
	C702	ELECTR. CAPACITOR	CEAS4R7M50
	C703	ELECTR. CAPACITOR	CEAS010M50
	C704	MYLOR FILM CAPACITOR	CQMA333K50
	C705	CERAMIC CAPACITOR	CKCYF473Z50
	C709, 710	ELECTR. CAPACITOR	CEAS470M10
	C711	AXIAL CAPACITOR	CKPUYB101K50
	C712	ELECTR. CAPACITOR	CEAS4R7M50
	C713	ELECTR. CAPACITOR	CEAS010M50
	C714	MYLOR FILM CAPACITOR	CQMA333K50
	C715	CERAMIC CAPACITOR	CKCYF473Z50

RESISTORS

Mark	No.	Description	Part No.
	VR701	VARIABLE RESISTOR (VOLUME)	RCV1074
	Other resistors		RD1/6PM□□□J

H.PHONE UNIT

CAPACITORS

Mark	No.	Description	Part No.
	C1-3	CERAMIC CAPACITOR	CKCYF473Z50

OTHERS

Mark	No.	Description	Part No.
	JA1	HEADPHONE JACK (PHONES)	RKB1014

Note : (# 1) HE and HB types
(# 2) KU and KC types
(# 3) HEWZI type
(# 4) HE,HB,KU and KC types
(# 5) HE,HB and HEWZI types

6.2 XC-P410T

MECHANISM BOARD ASSEMBLY

SWITCHES

Mark	NO	Description	Part NO.
	S601-603	PUSH SWITCH (TRY(1), TSEL, TRY(2))	DSG1017

MAIN UNIT

SEMICONDUCTORS

Mark	NO	Description	Part NO.
⚠	IC101	REGULATOR IC	NJM78M05FA
⚠	IC102	REGULATOR IC	NJM79M05FA
⚠	IC103	REGULATOR IC	NJM78M05FA
	IC201	OP-AMP IC	BA15218
(#6)	IC202	OP-AMP IC	BA15218
	IC203	LOGIC IC	BU4052B
(#5)	IC205	IC	BA15218N
	IC206, 207	IC	BA15218N
	IC208	SOUND PROCESSOR IC	PA0049
	IC209	GEQ IC	LA3607
	IC210	LOGIC IC	TC4051BP
	IC211	LOGIC IC	BU2040
⚠	IC212		TA8410AK(V18)
⚠	IC213	AUDIO IC	STK4142-2GP
⚠	Q101	TRANSISTOR	2SA1286
	Q103	TRANSISTOR	DTC124ES
⚠	Q104	TRANSISTOR	2SA1283
⚠	Q105	TRANSISTOR	2SA1287
⚠	Q107	TRANSISTOR	2SA1286
	Q108, 109	TRANSISTOR	2SD2144S
	Q110	TRANSISTOR	2SA933S
⚠	Q111	TRANSISTOR	2SC3246
	Q113	DIGITAL TRANSISTOR	DTC143XS
	Q114	TRANSISTOR	DTC124ES
	Q202	TRANSISTOR	2SA933S
	Q203, 204	TRANSISTOR	2SD2144S
	Q205	TRANSISTOR	2SC1740S
	Q206	TRANSISTOR	2SA933S
⚠	Q207	TRANSISTOR	2SC1741AS
	Q208	TRANSISTOR	DTA124ES
⚠	D101		D3SBA20
⚠	D102		S2VB20
⚠	D103, 104	DIODE	1SR139-100
⚠	D105	ZENER DIODE	MTZJ33B
⚠	D106	ZENER DIODE	MTZ10B
⚠	D107-110	DIODE	1SR139-100
	D111	DIODE	1SS254
⚠	D112	DIODE	1SR139-100
	D118	DIODE	1SS254
	D119	DIODE	1SR139-100
	D201, 202	DIODE	1SS254
	D204, 205	DIODE	1SS254
	D206-208	ZENER DIODE	MTZ8. 2B
	D209	DIODE	1SS254

RELAY

Mark	NO	Description	Part NO.
⚠	RY201	RELAY	ASR1005

COILS

Mark	NO	Description	Part NO.
(#2)	L102, 103	AXIAL INDUCTOR	LAU2R2M
(#8)	L201, 202	COIL	ATH-133
(#2)	L201, 202	COIL	ATH-059

CAPACITORS

Mark	NO	Description	Part NO.
(#8) ⚠	C101	CAPACITOR (CERAMIC) (0.01μF)	RCG-009
⚠	C102	ELECTROLYTIC CAPACIT (47/100)	RCH1051
	C103	ELECTROLYTIC CAPACIT	CEAS330M100
	C104-106	ELECTROLYTIC CAPACIT	CEAS330M35
	C107, 108	CERAMIC CAPACITOR	CKCYF103Z50
	C109	ELECTR. CAPACITOR	CEAS332M35
	C113	ELECTR. CAPACITOR	CEAS100M50
	C114	ELECTR. CAPACITOR	CEAS470M10
	C115	CERAMIC CAPACITOR	CKPUYF103Z25
(#5)	C116	ELECTROLYTIC CAPACIT (2200/42)	ACH1140
(#6)	C116	ELECTROLYTIC CAPACIT (3300/42)	RCH1050
	C117	ELECTR. CAPACITOR	CEAS100M50
	C118	ELECTR. CAPACITOR	CEAS470M10
	C119	CERAMIC CAPACITOR	CKPUYF103Z25
(#2)	C122, 123	CERAMIC CAPACITOR	CKCYF103Z50
(#2)	C124	CERAMIC CAPACITOR	CKPUYF103Z25
(#5)	C126	ELECTROLYTIC CAPACIT (2200/42)	ACH1140
(#6)	C126	ELECTROLYTIC CAPACIT (3300/42)	RCH1050
	C127	ELECTR. CAPACITOR	CEAS100M50
	C128	ELECTR. CAPACITOR	CEAS470M10
	C129	CERAMIC CAPACITOR -	CKPUYF103Z25
⚠	C130	ELECTROLYTIC CAPACTT	CEAS682M16
⚠	C131	ELECTROLYTIC CAPACIT	CEAS472M16
⚠	C132	CAPACITOR (CERAMIC) (0.01μF)	RCG-009
	C135	ELECTROLYTIC CAPACIT	CEANP470M50
	C136	ELECTR. CAPACITOR	CEAS101M50
(#2)	C137, 138	AXIAL CAPACITOR	CKPUYB101K50
(#2)	C139, 140	CERAMIC CAPACITOR	CKCYF473Z50
(#2)	C142	AXIAL CAPACITOR	CKPUYB101K50

Note : (# 1) HE and HB types
(# 2) HEWZI type
(# 3) SD type
(# 4) YPW type
(# 5) HE,HB and HEWZI types
(# 6) SD and YPW types
(# 7) HE,HB,HEWZI and YPW types
(# 8) HE,HB,SD and YPW types
(# 9) HE,HB,HEWZI and SD types

Mark	No.	Description	Part No.
(#2)	C144	AXIAL CAPACITOR	CKPUYB101K50
(#2)	C145, 146	CERAMIC CAPACITOR	CKCYF473Z50
(#2)	C147-150	CERAMIC CAPACITOR	CKDYF103Z50
	C151, 152	AXIAL CAPACITOR	CKPUYB101K50
	C153	CERAMIC CAPACITOR	CKPUYF103Z25
(#8)	C154	CERAMIC CAPACITOR	CKCYF103Z50
(#2)	C154	CERAMIC CAPACITOR	CKDYF103Z50
(#2)	C155, 156	AXIAL CAPACITOR	CKPUYF103Z25
	C160, 161	ELECTR. CAPACITOR	CEAS2R2M50
	C170, 171	MYLOR FILM CAPACITOR	CQMA471K50
(#2)	C187	CERAMIC CAPACITOR	CKDYF473Z50
(#2)	C188	AXIAL CAPACITOR	CKPUYB471K50
(#2)	C189	CERAMIC CAPACITOR	CKPUYX222M16
	C190	ELECTR. CAPACITOR	CEAS010M50
(#2)	C191, 192	CERAMIC CAPACITOR	CKDYF103Z50
	C193, 194	ELECTR. CAPACITOR	CEAS2R2M50
	C195, 196	AXIAL CAPACITOR	CKPUYB471K50
(#8)	C197	CERAMIC CAPACITOR	CKCYF103Z50
(#2)	C197	CERAMIC CAPACITOR	CKDYF103Z50
	C198, 199	ELECTR. CAPACITOR	CEAS330M16
	C200, 201	CERAMIC CAPACITOR	CKCYF473Z50
	C202	CERAMIC CAPACITOR	CKCYF103Z50
	C203	CERAMIC CAPACITOR	CKCYF473Z50
	C204, 205	ELECTR. CAPACITOR	CEAS010M50
(#5)	C206	ELECTR. CAPACITOR	CEAS010M50
(#5)	C207	ELECTR. CAPACITOR	CEAS100M50
(#5)	C208	MYLOR FILM CAPACITOR	CQMA152J50
(#5)	C209	MYLOR FILM CAPACITOR	CQMA562J50
(#5)	C210, 211	AXIAL CAPACITOR	CKPUYB101K50
(#5)	C212	ELECTR. CAPACITOR	CEAS010M50
	C213	CERAMIC CAPACITOR	CKCYF103Z50
	C214	CERAMIC CAPACITOR	CKCYB682K50
	C215	CERAMIC CAPACITOR	CKPUYB102K50
	C216	CERAMIC CAPACITOR	CKCYB562K50
	C217	ELECTR. CAPACITOR	CEAS2R2M50
	C218	CERAMIC CAPACITOR	CKCYB122K50
	C219	CERAMIC CAPACITOR	CCCSL470J50
	C220	ELECTR. CAPACITOR	CEAS101M10
	C221	ELECTR. CAPACITOR	CEAS101M25
	C222	MYLOR FILM CAPACITOR	CQMA104K50
	C223	CERAMIC CAPACITOR	CKCYF103Z50
(#8)	C224	CERAMIC CAPACITOR	CKCYF473Z50
(#2)	C224	CERAMIC CAPACITOR	CKDYF473Z50
	C225	CERAMIC CAPACITOR	CKPUYF103Z25
	C226	ELECTR. CAPACITOR	CEAS470M10
(#5)	C227, 228	ELECTR. CAPACITOR	CEAS470M10
	C229	CERAMIC CAPACITOR	CKPUYF103Z25
	C230	ELECTR. CAPACITOR	CEAS470M10
	C231	CERAMIC CAPACITOR	CKCYF473Z50
(#2)	C232, 233	AXIAL CAPACITOR	CKPUYB471K50
	C234, 235	ELECTR. CAPACITOR	CEAS010M50
(#5)	C236	ELECTR. CAPACITOR	CEAS010M50
(#5)	C237	ELECTR. CAPACITOR	CEAS100M50
(#5)	C238	MYLOR FILM CAPACITOR	CQMA152J50
(#5)	C239	MYLOR FILM CAPACITOR	CQMA562J50
(#5)	C240, 241	AXIAL CAPACITOR	CKPUYB101K50
(#5)	C242	ELECTR. CAPACITOR	CEAS010M50
(#2)	C243	CERAMIC CAPACITOR	CKDYB682K50
	C244	CERAMIC CAPACITOR	CKCYB682K50
	C245	CERAMIC CAPACITOR	CKPUYB102K50
	C246	CERAMIC CAPACITOR	CKCYB562K50
	C247	ELECTR. CAPACITOR	CEAS2R2M50
	C248	CERAMIC CAPACITOR	CKCYB122K50
	C249	CERAMIC CAPACITOR	CCCSL470J50
	C250	ELECTR. CAPACITOR	CEAS101M10
	C251	ELECTR. CAPACITOR	CEAS101M25
	C252	MYLOR FILM CAPACITOR	CQMA104K50
	C253	CERAMIC CAPACITOR	CKCYF103Z50
(#8)	C254	CERAMIC CAPACITOR	CKCYF473Z50
(#2)	C254	CERAMIC CAPACITOR	CKDYF473Z50
	C255	ELECTR. CAPACITOR	CEASR47M50
	C256	ELECTR. CAPACITOR	CEAS100M50
	C257	MYLOR FILM CAPACITOR	CQMA104K50
	C258	CERAMIC CAPACITOR	CKPUYF223Z25
	C259	AUDIO FILM CAPACITOR	CFTXA474J50
	C260	CERAMIC CAPACITOR	CKPUYF103Z25
	C261	ELECTR. CAPACITOR	CEAS470M10
	C262	ELECTROLYTIC CAPACIT	CEANP470M50
	C263	ELECTR. CAPACITOR	CEANP100M50
	C264	ELECTR. CAPACITOR	CEAS100M50
	C265	ELECTR. CAPACITOR	CEAS101M50
	C266	ELECTR. CAPACITOR	CEAS100M50
	C267	ELECTROLYTIC CAPACIT	CEAS471M6R3
(#2)	C268, 269	AXIAL CAPACITOR	CKPUYB471K50
	C270, 271	ELECTR. CAPACITOR	CEAS2R2M50
	C272	CERAMIC CAPACITOR	CKPUYF103Z25
	C273	ELECTR. CAPACITOR	CEAS470M10
	C274	MYLOR FILM CAPACITOR	CQMA273K50
	C275	MYLOR FILM CAPACITOR	CQMA393K50
	C276	MYLOR FILM CAPACITOR	CQMA683K50
	C277	MYLOR FILM CAPACITOR	CQMA104K50
	C278	AUDIO FILM CAPACITOR	CFTXA184J50
	C279	CERAMIC CAPACITOR	CKCYB182K50
	C280	CERAMIC CAPACITOR	CKCYB272K50
	C281	CERAMIC CAPACITOR	CKCYB472K50
	C282	CERAMIC CAPACITOR	CKCYB822K50
	C283	MYLOR FILM CAPACITOR	CQMA123K50
	C284	CERAMIC CAPACITOR	CKPUYB102K50
	C285, 286	AXIAL CAPACITOR	CKPUYB561K50
	C287	MYLOR FILM CAPACITOR	CQMA153K50

Note : (# 1) HE and HB types
(# 2) HEWZI type
(# 3) SD type
(# 4) YPW type
(# 5) HE,HB and HEWZI types
(# 6) SD and YPW types
(# 7) HE,HB,HEWZI and YPW types
(# 8) HE,HB,SD and YPW types
(# 9) HE,HB,HEWZI and SD types

Mark	No.	Description	Part No.
	C288	CERAMIC CAPACITOR	CKCYB822K50
	C289	CERAMIC CAPACITOR	CKCYB272K50
	C290	CERAMIC CAPACITOR	CKPUYF103Z25
	C291	ELECTR. CAPACITOR	CEAS470M10
	C292	CERAMIC CAPACITOR	CKPUYF103Z25
(#2)	C293	CERAMIC CAPACITOR	CKDYB682K50
	C294	CERAMIC CAPACITOR	CKCYF473Z50
	C296-298	AXIAL CAPACITOR	CKPUYB101K50
	C299, 300	MYLOR FILM CAPACITOR	CQMA104K50

RESISTORS

⚠	R104, 106		RS1LF222J
(#2)	R107, 108	CARBON FILM RESISTOR	RD1/4PMF100J
⚠	R136	METAL OXIDE RESISTOR	RS1PMF331J
(#8)⚠	R137	CARBON FILM RESISTOR	RD1/4LF100J
(#2)⚠	R137	CARBON FILM RESISTOR	RD1/4LF101J
⚠	R139	CARBON FILM RESISTOR	RD1/4PMF100J
	R140, 142	(22k)	RCN1030
	R160	RESISTOR ARRAY (10K)	RA6T103J
(#5)	R173	CARBON FILM RESISTOR	RD1/6PM223J
(#6)	R176	CARBON FILM RESISTOR	RD1/6PM223J
	R188	(2.2Ω)	RCN1031
	R197	(100Ω)	RCN1035
(#6)	R205, 206	CARBON FILM RESISTOR	RD1/6PM103J
(#5)	R206	CARBON FILM RESISTOR	RD1/6PM101J
(#6)	R207	CARBON FILM RESISTOR	RD1/6PM222J
(#6)	R208	CARBON FILM RESISTOR	RD1/6PM103J
(#6)	R217	CARBON FILM RESISTOR	RD1/6PM243J
(#6)	R218	CARBON FILM RESISTOR	RD1/6PM753J
(#5)	R218	CARBON FILM RESISTOR	RD1/6PM393J
(#5)	R219	CARBON FILM RESISTOR	RD1/6PM102J
(#5)	R220	CARBON FILM RESISTOR	RD1/6PM182J
(#5)	R221	CARBON FILM RESISTOR	RD1/6PM473J
(#5)	R222	CARBON FILM RESISTOR	RD1/6PM564J
(#5)	R223	CARBON FILM RESISTOR	RD1/6PM473J
(#6)	R235, 236	CARBON FILM RESISTOR	RD1/6PM103J
(#5)	R236	CARBON FILM RESISTOR	RD1/6PM101J
(#6)	R237	CARBON FILM RESISTOR	RD1/6PM222J
(#6)	R238	CARBON FILM RESISTOR	RD1/6PM103J
(#6)	R247	CARBON FILM RESISTOR	RD1/6PM243J
(#6)	R248	CARBON FILM RESISTOR	RD1/6PM753J
(#5)	R248	CARBON FILM RESISTOR	RD1/6PM393J
(#5)	R249	CARBON FILM RESISTOR	RD1/6PM102J
(#5)	R250	CARBON FILM RESISTOR	RD1/6PM182J
(#5)	R251	CARBON FILM RESISTOR	RD1/6PM473J
(#5)	R252	CARBON FILM RESISTOR	RD1/6PM564J
(#5)	R253	CARBON FILM RESISTOR	RD1/6PM473J
	R262, 264	(22k)	RCN1030
⚠	R265	CARBON FILM RESISTOR	RD1/4PMF100J
(#8)⚠	R266	CARBON FILM RESISTOR	RD1/4LF100J
(#2)⚠	R266	CARBON FILM RESISTOR	RD1/4LF101J

Mark	No.	Description	Part No.
⚠	R267	METAL OXIDE RESISTOR	RS1PMF331J
	R282	RESISTOR ARRAY (22K)	RA6T223J
(#5)	R288, 289	CARBON FILM RESISTOR	RD1/6PM101J
⚠	R290	CARBON FILM RESISTOR	RD1/4LF471J
	R291	(1k)	RCN1032
⚠	R292, 293	CARBON FILM RESISTOR	RD1/4LF222J
⚠	R294	CARBON FILM RESISTOR	RD1/4LF101J
⚠	R296	METAL OXIDE RESISTOR	RS2LF681J
	Other resistors		RD1/6PM□□□J

OTHERS

	CN201		10MQ-ST
	CN208	SOCKET(15P) (TAPE DECK)	AKP1076
	JA201	SPEAKER TERMINAL 4-P (SPEAKERS)	RKE1003
	JA202	PIN JACK(2P) (PHONO IN(#5)VIDEO(#6))	AKB1059

CDTX UNIT

SEMICONDUCTORS

	IC301	PLL IC	LM7001
	IC302	AM/FM IC	LA1265S
	IC303	MPX IC	AN7470P
⚠	IC304	REGULATOR IC	NJM78M12FA
	IC401	PRE AMP IC	CXA1471S
	IC402	SERVO IC	CXA1372Q
	IC403	EFM DEMODULATION IC	CXD2500Q
⚠	IC404	I.C. (BIPOLAR)	TA8449P
	IC501		TC9237N
	IC504	OP-AMP IC	NJM4560D
	Q301	TRANSISTOR	2SC2668
(#1)	Q302, 303	TRANSISTOR	DTC124ES
	Q304	TRANSISTOR	DTA143ES
(#1)	Q305	TRANSISTOR	DTA143ES
	Q306	TRANSISTOR	2SC1740S
	Q307	N-FET	2SK246
(#1)	Q308	TRANSISTOR	DTA143ES
	Q309	TRANSISTOR	2SC1740S
(#2)	Q310	TRANSISTOR	2SC1740S
	Q311	TRANSISTOR	DTC124ES
	Q312	TRANSISTOR	DTA143ES
	Q401	TRANSISTOR	2SA854S
(#1)	D301, 302	DIODE	1SS254
	D304-309	DIODE	1SS254
(#1)	D310	DIODE	1SS254
(#1)	D311, 312	DIODE	1SS85
(#1)	D313	DIODE	1SS254
	D314-317	DIODE	1SS254
	D401	ZENNER DIODE	MTZJ6.2B/C
	D402-406	DIODE	1SS254

Note : (# 1) HE and HB types
(# 2) HEWZI type
(# 3) SD type
(# 4) YPW type
(# 5) HE,HB and HEWZI types
(# 6) SD and YPW types
(# 7) HE,HB,HEWZI and YPW types
(# 8) HE,HB,SD and YPW types
(# 9) HE,HB,HEWZI and SD types

SWITCH

Mark	No.	Description	Part No.
(#3)	S301	SLIDE SWITCH (CHANNEL STEP)	RSH1033

COILS AND FILTERS

Mark	No.	Description	Part No.
(#2)	L303	AXIAL INDUCTOR	LAU220K
(#2)	L304	AXIAL INDUCTOR	LAU2R2K
	L305	COIL	ATE-079
	L306, 308	AXIAL INDUCTOR	LAU680K
	L310, 311	AXIAL INDUCTOR	LAU2R2M
	L401	AXIAL INDUCTOR	LAU2R2M
	L501	AXIAL INDUCTOR	LAU680K
	L502	AXIAL INDUCTOR	LAU2R2M
(#8)	F301	CERAMIC FILTER	ATF-107
(#2)	F301	CERAMIC FILTER	ATF-119
	F302	CERAMIC FILTER	ATF-208
	F303	CERAMIC FILTER	ATF-107
(#2)	F304	CERAMIC FILTER	ATF-146

CAPACITORS

Mark	No.	Description	Part No.
(#2)	TC301	CERAMIC TRIMMER	ACM-018
	C301	CERAMIC CAPACITOR	CKPUYF223Z25
(#2)	C303	AXIAL CERAMIC C.	CCPUCH150J50
	C305	MYLOR FILM CAPACITOR	CQMA104K50
	C306	ELECTR. CAPACITOR	CEAS330M16
	C307, 308	CERAMIC CAPACITOR	CKPUYF103Z25
	C310	CERAMIC CAPACITOR	CKPUYF103Z25
	C314	ELECTR. CAPACITOR	CEAS330M16
	C315	AUDIO FILM CAPACITOR	CFTXA224J50
	C316	MYLOR FILM CAPACITOR	CQMA103K50
	C318	ELECTR. CAPACITOR	CEAS470M10
	C319	CERAMIC CAPACITOR	CKPUYF103Z25
	C320	ELECTR. CAPACITOR	CEAS330M16
	C321, 322	AXIAL CERAMIC C.	CCPUCH150J50
	C323	CERAMIC CAPACITOR	CKCYF473Z50
	C324-327	CERAMIC CAPACITOR	CKPUYF223Z25
(#1)	C328	CERAMIC CAPACITOR	CKPUYF223Z25
	C329	CERAMIC CAPACITOR	CKPUYF103Z25
	C330	ELECTR. CAPACITOR	CEAS330M16
	C331	CERAMIC CAPACITOR	CKPUYF103Z25
	C332	ELECTROLYTIC CAPACIT	CEASR10M50
	C333	AXIAL CAPACITOR	CKPUYB221K50
	C334	ELECTR. CAPACITOR	CEAS010M50
	C335	CERAMIC CAPACITOR	CKCYF473Z50
	C336	CERAMIC CAPACITOR	CKPUYX222M16
	C337	ELECTR. CAPACITOR	CEAS2R2M50
	C338	ELECTR. CAPACITOR	CEAS330M16
	C339, 340	ELECTR. CAPACITOR	CEAS4R7M50
	C341	CERAMIC CAPACITOR	CCCSL470J50
	C342	CERAMIC CAPACITOR	CKPUYF103Z25
	C343	ELECTR. CAPACITOR	CEAS100M50
	C344, 345	CERAMIC CAPACITOR	CKPUYF103Z25
	C347	ELECTR. CAPACITOR	CEAS330M16
	C348	CERAMIC CAPACITOR	CKPUYF103Z25
	C349	ELECTR. CAPACITOR	CEAS330M16
	C350	ELECTR. CAPACITOR	CEANP010M50
	C351, 352	MYLOR FILM CAPACITOR	CQMA122K50
	C353	ELECTR. CAPACITOR	CEAS330M16
	C354, 355	ELECTR. CAPACITOR	CEAS010M50
	C356	MYLOR FILM CAPACITOR	CQMA473K50
	C357	CERAMIC CAPACITOR	CKPUYF223Z25
	C358	ELECTR. CAPACITOR	CEASR47M50
	C359	ELECTROLYTIC CAPACIT	CEAS1R5M50
	C360	ELECTR. CAPACITOR	CEAS4R7M50
	C361	PL. STYRENE CAPACITOR	CQSA471J50
(#2)	C362	AXIAL CAPACITOR	CKPUYB681K50
(#2)	C363	ELECTR. CAPACITOR	CEAS2R2M50
(#7)	C366, 367	MYLOR FILM CAPACITOR	CQMA272K50
(#3)	C366, 367	MYLOR FILM CAPACITOR	CQMA562K50
	C371, 372	CERAMIC CAPACITOR	CKPUYF223Z25
	C390	ELECTR. CAPACITOR	CEAS330M25
	C391	ELECTR. CAPACITOR	CEAS330M16
	C401, 402	ELECTR. CAPACITOR	CEAS470M10
	C403	CERAMIC CAPACITOR	CCCCH200J50
	C404	ELECTR. CAPACITOR	CEAS470M10
	C405, 410	CERAMIC CAPACITOR	CKPUYF103Z25
	C421	MYLOR FILM CAPACITOR	CQMA473J50
	C422	CERAMIC CAPACITOR	CKCYB152K50
	C423	ELECTR. CAPACITOR	CEAS101M10
	C424	ELECTR. CAPACITOR	CEASR47M50
	C425	MYLOR FILM CAPACITOR	CQMA103K50
	C426	CERAMIC CAPACITOR	CKPUYF103Z25
	C427	AXIAL CERAMIC C.	CCPUSL680J50
	C428	MYLOR FILM CAPACITOR	CQMA104K50
	C451-454	ELECTR. CAPACITOR	CEAS470M10
	C455	MYLOR FILM CAPACITOR	CQMA182K50
	C456	MYLOR FILM CAPACITOR	CQMA333K50
	C457	MYLOR FILM CAPACITOR	CQMA103K50
	C458, 459	MYLOR FILM CAPACITOR	CQMA104K50
	C460	ELECTR. CAPACITOR	CEAS4R7M50
	C461	MYLOR FILM CAPACITOR	CQMA104K50
	C462	ELECTR. CAPACITOR	CEAS010M50
	C463	MYLOR FILM CAPACITOR	CQMA104K50
	C464	MYLOR FILM CAPACITOR	CQMA103K50
	C467	CERAMIC CAPACITOR	CKPUYF103Z25
	C468	MYLOR FILM CAPACITOR	CQMA333K50
	C469	MYLOR FILM CAPACITOR	CQMA103K50
	C470	MYLOR FILM CAPACITOR	CQMA332K50
	C471, 472	MYLOR FILM CAPACITOR	CQMA472K50
	C473	CERAMIC CAPACITOR	CKPUYF223Z25

Note :
(# 1) HE and HB types
(# 2) HEWZI type
(# 3) SD type
(# 4) YPW type
(# 5) HE,HB and HEWZI types
(# 6) SD and YPW types
(# 7) HE,HB,HEWZI and YPW types
(# 8) HE,HB,SD and YPW types
(# 9) HE,HB,HEWZI and SD types

Mark	No.	Description	Part No.
	C474	CERAMIC CAPACITOR	CKPUYF103Z25
	C480	AUDIO FILM CAPACITOR	CFTXA184J50
	C481	MYLOR FILM CAPACITOR	CQMA103K50
	C482, 483	AUDIO FILM CAPACITOR	CFTXA184J50
	C484	MYLOR FILM CAPACITOR	CQMA104K50
	C485, 486	ELECTR. CAPACITOR	CEAS330M16
	C501	ELECTR. CAPACITOR	CEAS220M25
	C502	CERAMIC CAPACITOR	CKPUYF103Z25
	C503, 504	CERAMIC CAPACITOR	CCDCH470J50
	C505	ELECTROLYTIC CAPACIT	CEAS331M6R3
	C506-508	CERAMIC CAPACITOR	CKPUYF103Z25
	C509	ELECTR. CAPACITOR	CEAS101M10
	C511	CERAMIC CAPACITOR	CKPUYF103Z25
	C521	AXIAL CERAMIC C.	CCPUSL560J50
	C523	AXIAL CERAMIC C	CCPUSL390J50
	C530	ELECTROLYTIC CAPACIT	CEYA100M50
	C531	AXIAL CERAMIC C	CCPUSL390J50
	C561	AXIAL CERAMIC C.	CCPUSL560J50
	C563	AXIAL CERAMIC C	CCPUSL390J50
	C564	ELECTROLYTIC CAPACIT	CEAS331M6R3
	C565	CERAMIC CAPACITOR	CKPUYF223Z25
	C566	ELECTROLYTIC CAPACIT	CEAS331M6R3
	C567	CERAMIC CAPACITOR	CKPUYF223Z25
	C570	ELECTROLYTIC CAPACIT	CEYA100M50
	C571	AXIAL CERAMIC C	CCPUSL390J50

RESISTORS

Mark	No.	Description	Part No.
	VR301	VR (4.7k)	VRTB6VS472
	VR302	VR (22k)	VRTB6VS223
	VR303	VR (4.7k)	VRTB6VS472
	VR402	VARIABLE RESISTOR(20k)	RCP1017
	VR403	VARIABLE RESISTOR(1k)	RCP1081
	VR451, 452	VARIABLE RESISTOR(20k)	RCP1017
(#9)	R322	CARBON FILM RESISTOR	RD1/6PM273J
(#4)	R322	CARBON FILM RESISTOR	RD1/6PM153J
	R447	RESISTOR ARRAY (22K)	RA4T223J
	Other resistors		RD1/6PM☐☐☐J

OTHERS

Mark	No.	Description	Part No.
	X301	CRYSTAL RESONATOR	ASS-025
	X302	CERAMIC FILTER	ATF-125
	X501	XTAL RES (OSC)	PSS1006
(#1)		AM RF TUNING BLOCK	AXX1012
(#1)		AM RF TUNING BLOCK	AXX1013
(#2)		AM RF TUNING BLOCK	AXX1014
(#6)		AM RF TUNING BLOCK	AXX1011
(#5)		ANTENNA TERMINAL	RKE1002
(#6)		ANTENNA TERMINAL 4P	RKE1001
(#2)		FM FRONT END	AXF1031
(#8)		FM FRONT END	RWB1002
	CN411		B10P-MQ-B

FRNT UNIT

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC601	MAIN CPU	PDB026C
	IC602	LOGIC IC	BU2040
	IC603	MECHANISM DRIVER IC	TA8409S
	Q601	TRANSISTOR	2SC1740S
	D601-611	DIODE	1SS254
	D612	DIODE	1SR139-100
	D613-615	DIODE	1SS254
	D617-622		SEL3C10RLC05

SWITCHES

Mark	No.	Description	Part No.
	S601-621	SWITCH (HI-LITE SCAN, RANDOM, STOP, FREQ/ST., BAND, TUNER(DOWN), HALL, MODE, B.G.M., TIMER(WAKE UP, REC), REPEAT, AUTO EJECT, PAUSE, AM-NR/FM-MONO, MEMORY(AUTO PRESET), TUNER(UP), DISCO, SFC CLEAR, PHONO(#5) VIDEO(#6), DISPLAY)	RSG1033
	S623-627	SWITCH (SEARCH(⏮,⏭), PLAY, DISC1, DISC2)	RSG1033
	S629-632	SWITCH (TUNER, CD, POWER, TIMER SET)	RSG1033
	S635-637	SWITCH (PROGRAM, OPEN/CLOSE(DISC1), OPEN/CLOSE(DISC2))	RSG1033
	S640-643	SWITCH (TAPE, SMART OPERATION(MEMORY, START/SET), CLOCK ADJ.)	RSG1033

COILS

Mark	No.	Description	Part No.
	L601, 602	AXIAL INDUCTOR	LAU2R2M

CAPACITORS

Mark	No.	Description	Part No.
	C601, 602	CERAMIC CAPACITOR	CKPUYF103Z25
	C603	ELECTR. CAPACITOR	CEAS470M10
	C604	CERAMIC CAPACITOR	CKPUYF103Z25
	C605	CEA (47000/5.5V)	ACH1070
	C606, 607	AXIAL CERAMIC C.	CCPUCH150J50
	C608	CERAMIC CAPACITOR	CKPUYF103Z25
	C609, 610	ELECTR. CAPACITOR	CEAS470M10
	C611	CERAMIC CAPACITOR	CKCYF103Z50
	C612	CERAMIC CAPACITOR	CKPUYF103Z25
	C613	ELECTR. CAPACITOR	CEAS330M50
	C614, 615	CERAMIC CAPACITOR	CKCYF103Z50
	C616	ELECTR. CAPACITOR	CEAS010M50
	C617	ELECTROLYTIC CAPACIT	CEASR10M50
	C618	ELECTR. CAPACITOR	CEAS010M50
	C619	ELECTR. CAPACITOR	CEAS100M50
	C620	CERAMIC CAPACITOR	CKPUYF103Z25
	C621	ELECTR. CAPACITOR	CEAS330M16
	C622, 625	CERAMIC CAPACITOR	CKPUYF103Z25

Note : (# 1) HE and HB types
(# 2) HEWZI type
(# 3) SD type
(# 4) YPW type
(# 5) HE,HB and HEWZI types
(# 6) SD and YPW types
(# 7) HE,HB,HEWZI and YPW types
(# 8) HE,HB,SD and YPW types
(# 9) HE,HB,HEWZI and SD types

RESISTORS

Mark	No.	Description	Part No.
	R687	RESISTOR ARRAY (47K)	RA15T473J
	Other resistors		RD1/6PM□□□J

OTHERS

Mark	No.	Description	Part No.
	V601	FLUORESCENT INDICATO	RAW1063
	X601	CERAMIC RESONATOR	VSS1031
		REMOTE SENSOR	GP1U50X

MVOL UNIT

SEMICONDUCTOR

Mark	No.	Description	Part No.
	IC701	LINEAR IC	NJM4558D

CAPACITORS

Mark	No.	Description	Part No.
	C701	AXIAL CAPACITOR	CKPUYB101K50
	C702	ELECTR. CAPACITOR	CEAS4R7M50
	C703	ELECTR. CAPACITOR	CEAS010M50
	C704	MYLOR FILM CAPACITOR	CQMA333K50
	C705	CERAMIC CAPACITOR	CKCYF473Z50
	C709, 710	ELECTR. CAPACITOR	CEAS470M10
	C711	AXIAL CAPACITOR	CKPUYB101K50
	C712	ELECTR. CAPACITOR	CEAS4R7M50
	C713	ELECTR. CAPACITOR	CEAS010M50
	C714	MYLOR FILM CAPACITOR	CQMA333K50
	C715	CERAMIC CAPACITOR	CKCYF473Z50

RESISTORS

Mark	No.	Description	Part No.
	VR701	VARIABLE RESISTOR	RCV1074
	Other resistors		RD1/6PM□□□J

H.PHONE UNIT

CAPACITORS

Mark	No.	Description	Part No.
	C1-3	CERAMIC CAPACITOR	CKCYF473Z50

OTHERS

Mark	No.	Description	Part No.
	JA1	HEADPHONE JACK (PHONES)	RKB1014

(#6)

MIC UNIT

SEMICONDUCTOR

Mark	No.	Description	Part No.
	IC801	LINEAR IC	NJM4558D

CAPACITORS

Mark	No.	Description	Part No.
	C801	CERAMIC CAPACITOR	CKCYF473Z50
	C802	AXIAL CAPACITOR	CKPUYB681K50
	C803	ELECTR. CAPACITOR	CEAS010M50
	C804	ELECTR. CAPACITOR	CEAS2R2M50
	C805	AXIAL CAPACITOR	CKPUYB221K50
	C807, 808	CERAMIC CAPACITOR	CKPUYF103Z25
	C809	ELECTR. CAPACITOR	CEAS100M50

RESISTORS

Mark	No.	Description	Part No.
	VR801	VARIABLE (10K-X1)	ACS1064
	Other resistors		RD1/6PM□□□J

OTHERS

Mark	No.	Description	Part No.
		JACK(MIC)	AKN1017

FCON UNIT

OTHERS

Mark	No.	Description	Part No.
	CN1001		5597-16CPB

MCON UNIT

There is not supplied parts in this unit.

Note :
(# 1) HE and HB types
(# 2) HEWZI type
(# 3) SD type
(# 4) YPW type
(# 5) HE,HB and HEWZI types
(# 6) SD and YPW types
(# 7) HE,HB,HEWZI and YPW types
(# 8) HE,HB,SD and YPW types
(# 9) HE,HB,HEWZI and SD types

7. DISASSEMBLY OF CD SECTION

1. Remove the bonnet.
2. Remove nine screws① and a binder to remove the front panel and FCON unit as shown in Fig.7-1.

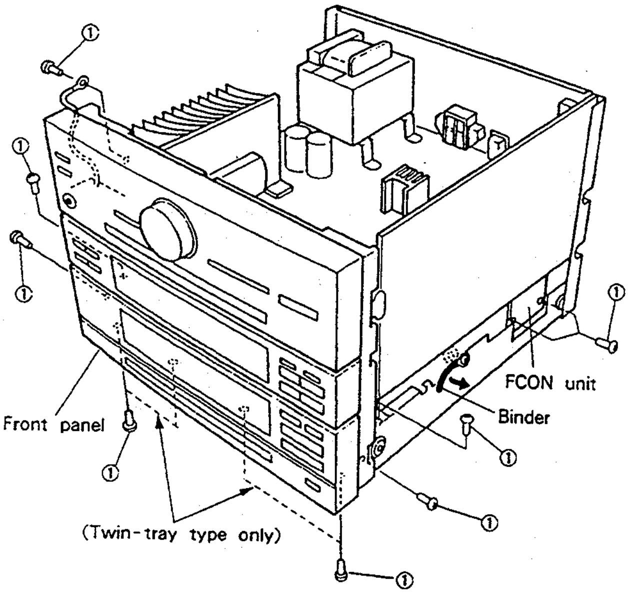

①
①
①
①
FCON unit
Binder
①
Front panel
①
①
(Twin-tray type only)
①

Fig. 7-1

3. Remove four screws② and a binder to remove the rear panel from the chassis as shown in Fig. 7-2.

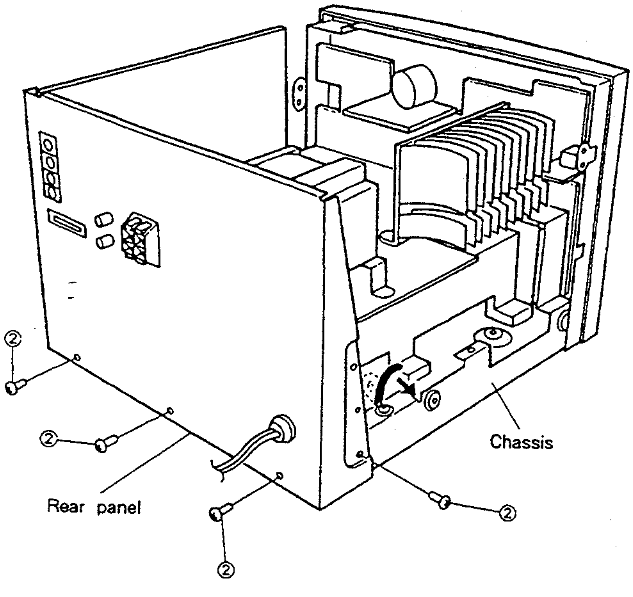

②
②
Chassis
Rear panel
②
②

Fig. 7-2

4. Repair and examination will be easier when the MAIN unit is tilted to the right, as shown in Fig. 7-3.
   Then, reset the chassis with the mechanical unit to the horizontal state.

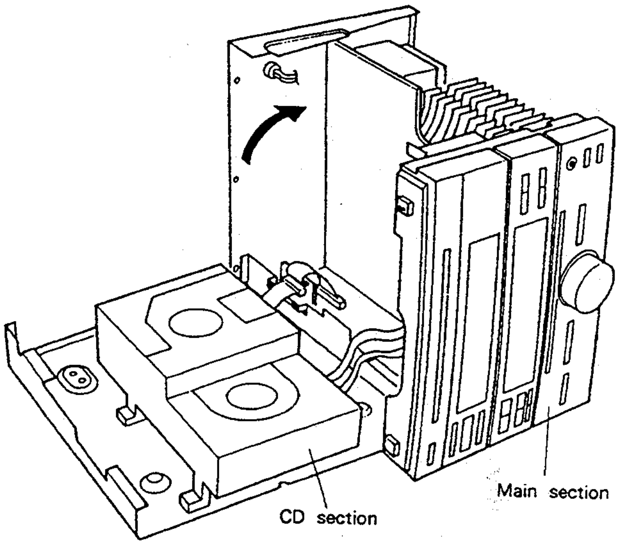

Main section
CD section

Fig. 7-3

Note ; For the XC-P410T (twin-tray type), open the tray and remove the tray name plate before removing the front panel.

8. ADJUSTMENTS

8.1 CD SECTION ADJUSTMENT

1. Adjustment Methods

If a disc player is adjusted incorrectly or inadequately, it may malfunction or not work at all even though there is nothing at all wrong with the pickup or the circuitry. Adjust correctly following the adjustment procedure.

1-1 Adjustment items/verification items and order

Step	Item	Test point	Adjustment location
1	Focus offset adjustment	CN421, Pin 6 (FCS. ERR)	VR403 (FCS. OFS)
2	Grating adjustment	CN421, Pin 2 (TRK. ERR)	Grating adjustment slit
3	Tracking error balance adjustment	CN421, Pin 2 (TRK. ERR)	VR402 (TRK. BAL)
4	Pickup radial/tangential direction tilt adjustment	CN421, Pin 1 (RF)	Radial tilt adjustment screw, Tangential tilt adjustment screw
5	RF level adjustment	CN421, Pin 1 (RF)	VR1 (RF level)
6	Focus servo loop gain adjustment	CN421, Pin 5 (FCS. IN) CN421, Pin 6 (FCS. ERR)	VR452 (FCS. GAN)
7	Tracking servo loop gain adjustment	CN421, Pin 3 (TRK. IN) CN421, Pin 2 (TRK. ERR)	VR451 (TRK. GAN)
8	Focus error signal verification	CN421, Pin 6 (FCS. ERR)	————

● **Abbreviation table**

FCS. ERR	:Focus Error
FCS. OFS	:Focus Offset
TRK. ERR	:Tracking Error
TRK. BAL	:Tracking Balance
FCS. IN	:Focus In
TRK. IN	:Tracking In

1-2 Measuring instruments and tools

1. Dual trance oscilloscope (10:1 probe)
2. Low-frequency oscillator
3. Test disc (YEDS - 7)
4. 12-cm disc (with at least about 70 minutes of recording) (Twin-tray CD type only)
5. Low-pass filter (39 kΩ + 0.001 μF)
6. Resistor (100 kΩ)
7. Hexagonal wrench (M3 mm) (not used for Multi-play CD type)
8. Standard tools

1-3 Test point and adjustment variable resistor positions

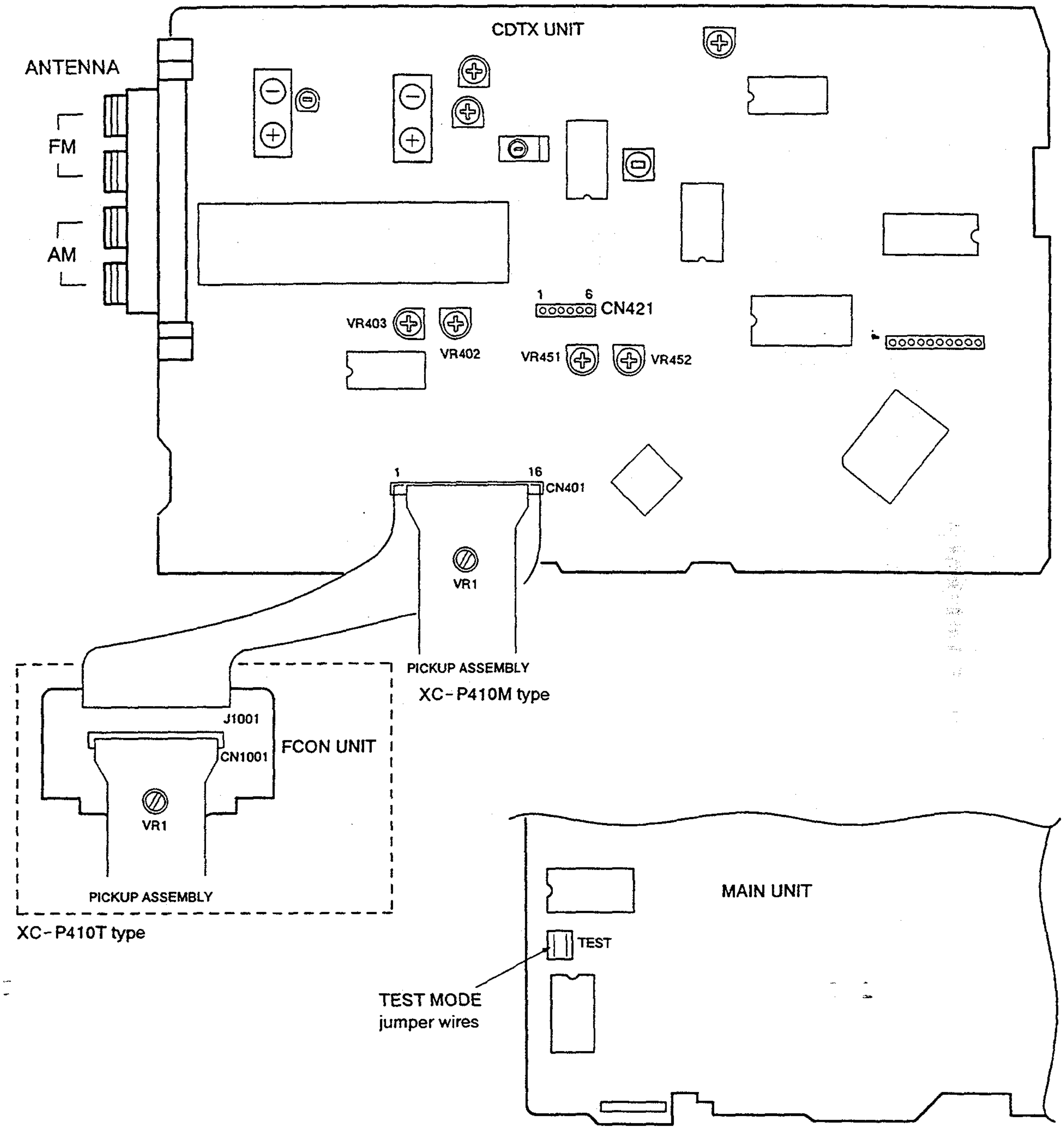

CDTX UNIT
ANTENNA
FM
AM
1
6
CN421
VR403
VR402
VR451
VR452
1
16
CN401
VR1
PICKUP ASSEMBLY
XC-P410M type
J1001
CN1001
FCON UNIT
VR1
PICKUP ASSEMBLY
XC-P410T type
MAIN UNIT
TEST
TEST MODE
jumper wires

Figure 1 Adjustment Locations

1-4 Notes

1. Use a 10:1 probe for the oscilloscope.
2. All the knob positions (settings) for the oscilloscope in the adjustment procedures are for when a 10:1 probe is used.

1-5 Test mode

These models have a test mode so that the adjustments and checks required for service can be carried out easily. When these models are in test mode, the keys on the front panel work differently from normal. Adjustments and checks can be carried out by operating these keys with the correct procedure. For these models, all adjustments are carried out in test mode.

[Setting these models to test mode]

How to set this model into test mode.
1. Turn on the power switch.
2. Short the test mode jumper wires. (See Figure 1.)

When the test mode is set correctly, the display is different from what it usually is when the power is turned on. The letter "T" appears on the left end of the FL display block.

[Release from test mode]

Here is the procedure for releasing the test mode:

1. Press the STOP key and stop all operations.
2. Turn off the power switch on the front panel.

[Operations of the keys in test mode]

Code	Key name	Function in test mode	Explanation
	PROGRAM	Focus servo close	For Twin-tray CD type only, Disc Tray 1 is moved to the play position. For Multi-play CD type only, RANDOM laser diode is lit up and the focus actuator is lowered (*1), then raised slowly (*2) and the focus servo is closed at the point where the objective lens is focused on the disc. With the player in this state, if you slightly rotate the stopped disc by hand, you can hear the sound the focus servo. If you can hear this sound, the focus servo is operating correctly. If you press this key with no disc mounted, the laser diode lights up, the focus actuator is pulled down (*3), then the actuator is raised and lowered twice (*4) and returned to its original position. **Note**: For Multi-play CD type, the operations are reversed this way. *1:The focus actuator is lifted up. *2:Lowered slowly *3:Pulled up *4:Lowered and raised twice
▷	PLAY	Spindle servo ON	Starts the spindle motor in the clockwise direction and when the disc rotation reaches the prescribed speed (about 500 rpm at the inner periphery), sets the spindle servo in a closed loop. Be careful. Pressing this key when there is no disc mounted makes the spindle motor run at the maximum speed. If the focus servo does not go correctly into a closed loop or the laser light shines on the mirror section at the outermost periphery of the disc, the same symptom is occurred.
	HI－LITE SCAN	Outward movement by 10,000 tracks	By pressing this key when the pickup has been moved to the inner rim of a disc and the focus and spindle servo are in the proper closed-loop condition, the pickup moves outwards by approx. 10,000 tracks (in case of a 12-cm disc, the center position between the outer and inner rims).

Code	Key name	Function in test mode	Explanation
□□	PAUSE	Tracking servo close/open	Pressing this key when the focus servo and spindle servo are operating correctly in closed loops puts the tracking servo into a closed loop, displays the track number being played back and the elapsed time on the front panel. If the elapsed time is not displayed or not counted correctly, it may be that the laser is shining on the section with no sound recorded at the outer edge of the disc, that something is out of adjustment, or that there is some other problem. This key is a toggle key and open/close the tracking servo alternately. This key has no effect if no disc is mounted.
|◁◁	TRACK REV	Carriage reverse (inwards)	Moves the pickup position toward the inner periphery of the disc. When this key is pressed with the tracking servo in a closed loop, the tracking servo automatically goes into an open loop. Since the pickup does not automatically stop at the mechanical end point in test mode, be careful with this operation.
▷▷|	TRACK FWD	Carriage forward (outwards)	Moves the pickup position toward the outer periphery of the disc. When this key is pressed with the tracking servo in a closed loop, the tracking servo automatically goes into an open loop. Since the pickup does not automatically stop at the mechanical end point in test mode, be careful with this operation.
□	STOP	Stop	Initializes and the disc rotation stops. The pickup and disc remain where they are when this key is pressed.
⏏ *1 OPEN/ CLOSE	OPEN/CLOSE (DISC 1)	Disc tray open/close	Opens/closes the disc tray. This key is a toggle key and open/close tray alternately.
	········ For Multi-play CD type ········		
	EJECT	CD magazine eject	Stores Disc 1 in the CD magazine, then ejects the CD magazine. However, even though the CD magazine is ejected, the pickup does not return to the park position. Even if the CD magazine is mounted again, the pickup remains where it is.

Note 1: In test mode, the $\boxed{\text{REP}}$ segment in the center of the FL display block lights when the pickup reaches the inner rim (the inside switch is set to ON).

Note 2: When inserting the magazine, disc 1 of the magazine is loaded automatically. (Multi-play CD type only)

*1: For Multi-play CD type only.

[How to play back a disc in test mode]

In test mode, since the servos operate independently, playing back a disc requires that you operate the correct order to close the servos.
Here is the key operation sequence for playing back a disc in test mode.

RANDOM	Lights up the laser diode .
⇩	
PROGRAM	Closes the focus servo.
⇩	
PLAY ▷	Starts the spindle motor and closes the spindle servo.
⇩	
PAUSE ▯▯	Closes the tracking servo.

Wait at least 2–3 seconds between each of these operations.

1. Focus offset adjustment

● Objective	Sets the DC offset for the focus error amp.		
● Symptom when out of adjustment	The player does not focus in and the RF signal is dirty.		
● Measurement instrument connections	Connect the oscilloscope to CN421, Pin 6 (FCS. ERR) [Settings] 5 mV/division 10 ms/division DC mode	● Player state	Test mode, stopped (just the Power switch on)
		● Adjustment location	VR403 (FCS. OFS)
		● Disc	None needed

[Procedure]

Adjust VR403 (FCS. OFS) so that the DC voltage at CN421, Pin 6 (FCS. ERR) is
XC-P410T: -50 ± 50 mV
XC-P410M: -150 ± 50 mV.

2. Grating adjustment

● Objective	To align the tracking error generation laser beam spots to the optimum angle on the track.		
● Symptom when out of adjustment	Play does not start, track search is impossible, tracks are skipped.		
● Measurement instrument connections	Connect the oscilloscope to CN421, Pin 2(TRK. ERR)via a low pass filter. (See Figure 2) [Settings] 50 mV/division 5 ms/division DC mode	● Player state	Test mode, focus and spindle servos closed and tracking servo open
		● Adjustment location	Pickup grating adjustment slit
		● Disc	For Twin-tray CD type, use the 12-cm disc. (YEDS-7 can not be used.) For Multi-play CD type, use the YEDS-7 test disc.

[Procedure]

1. Move the pickup to the outer edge of the disc with the TRACK FWD ▷▷| or TRACK REV |◁◁ key so that the grating adjustment slit is at the outer edge of the disc where it can be adjusted.

   Note: For Multi-play CD type, use the TRACK FWD ▷▷| or TRACK REV |◁◁ key to move the pickup to halfway across the disc (R=35 mm).
2. Press the PROGRAM key after pressing the RANDOM key, then the PLAY ▷ key in that order to close the focus servo then the spindle servo.
3. Insert an ordinary screwdriver into the grating adjustment slit and adjust the grating to find the null point. For more details, see the next page.
4. If you slowly turn the screwdriver counterclockwise (clockwise for Multi-play CD type) from the null point, the amplitude of the wave gradually increases, then if you continue turning the screwdriver, the amplitude of the wave becomes smaller again. Turn the screwdriver counterclockwise (clockwise for Multi-play CD type) from the null point and set the grating to the first point where the wave amplitude reaches its maximum.
   Reference : Figure 3 shows the relation between the angle of the tracking beam with the track and the waveform.

   Note : The amplitude of the tracking error signal is about 3 Vp-p (when a 39 kΩ + 0.001 μF low pass filter is used). If this amplitude is extremely small (2 Vp-p or less), the objective lens or the pickup malfunction may be the cause. If the difference between the amplitude of the error signal at the innermost edge and outermost edge of the disc is more than 10%, the grating is not adjusted to the optimum point, so adjust it again.
5. Return the pickup to more or less midway across the disc with the TRACK REV |◁◁ key, press the PAUSE ‖ key and check that the track number and elapsed time are displayed on the front panel. If they are not displayed at this time or the elapsed time changes irregularly, check the null point and adjust grating again.

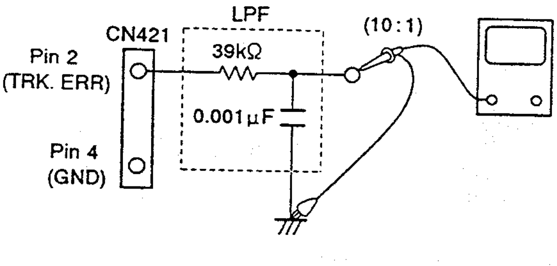
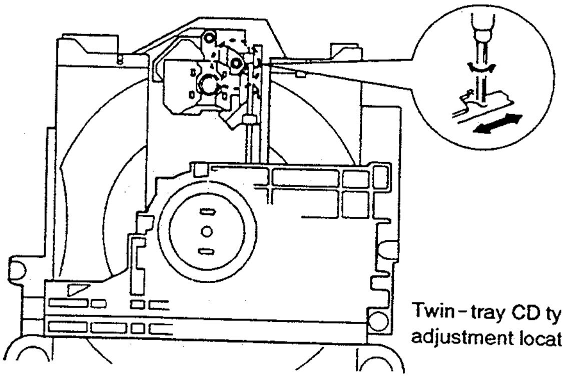
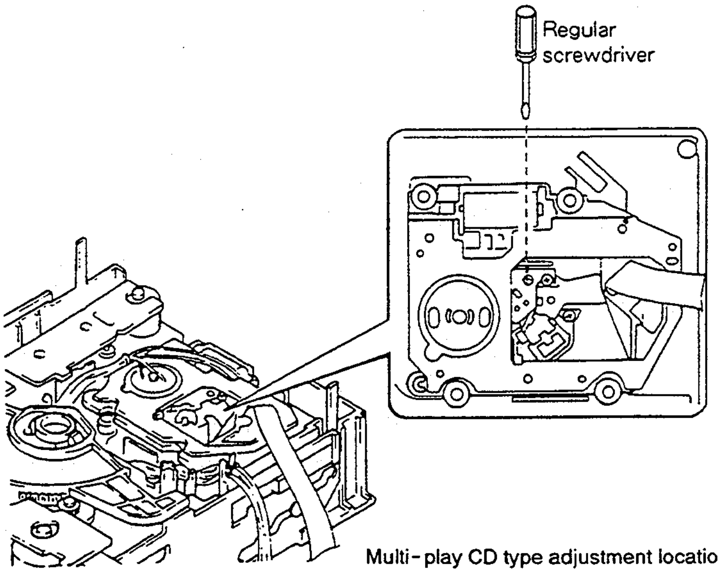


Figure 2



Twin-tray CD type adjustment locations


Regular screwdriver

Multi-play CD type adjustment locations

[How to find the null point]

When you insert the regular screwdriver into the slit for the grating adjustment and change the grating angle, the amplitude of the tracking error signal at CN421, Pin 2 changes. Within the range for the grating, there are five or six locations where the amplitude of the wave reaches a minimum. Of these five or six locations, there is only one at which the envelope of the waveform is smooth. This location is where the three laser beams divided by the grating are all right above the same track. (See Figure 3.)

This point is called the null point. When adjusting the grating, this null point is found and used as the reference position.

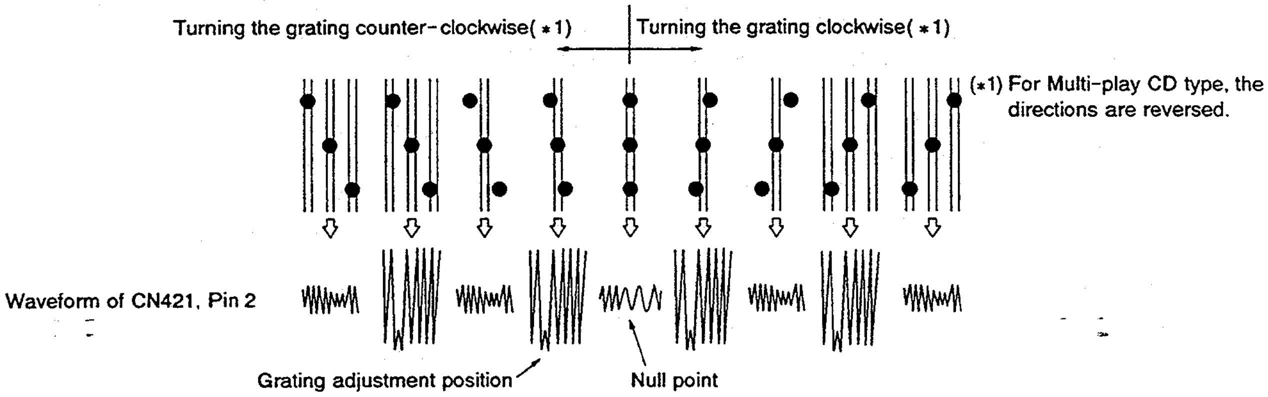
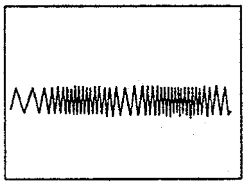
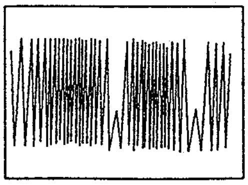

Turning the grating counter-clockwise(*1)
Turning the grating clockwise(*1)
(*1) For Multi-play CD type, the directions are reversed.
Waveform of CN421, Pin 2
Grating adjustment position
Null point

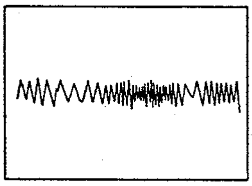
Figure 3



Null point waveform



Maximum amplitude waveform



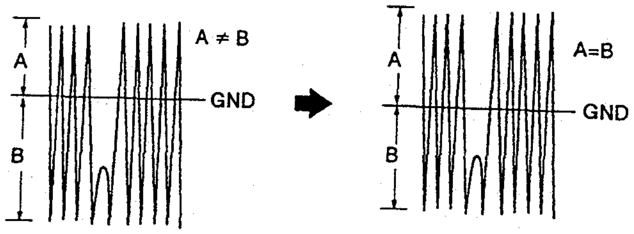
Waveform other than the null point

3. Tracking error balance adjustment

● Objective	To correct for the variation in the sensitivity of the tracking photodiode.		
● Symptom when out of adjustment	Play does not start or track search is impossible.		
● Measurement instrument connections	Connect the oscilloscope to CN421, Pin 2 (TRK. ERR). This connection may be via a low pass filter. [Settings] 50 mV/division 5 ms/division DC mode	● Player state	Test mode, focus and spindle servos closed and tracking servo open
		● Adjustment location	VR402 (TRK. BAL)
		● Disc	YEDS-7

[Procedure]

1. Move the pickup to midway across the disc (R=35 mm) with the TRACK FWD ▷▷| or TRACK REV |◁◁ key.
2. Press the PROGRAM key after pressing the RANDOM key, then the PLAY ▷ key in that order to close the focus servo then the spindle servo.
3. Line up the bright line (ground) at the center of the oscilloscope screen and put the oscilloscope into DC mode.
4. Adjust VR402 (TRK. BAL) so that the positive amplitude and negative amplitude of the tracking error signal at CN421, Pin 2 (TRK. ERR) are the same (in other words, so that there is no DC component).



When there is a DC component

When there is no DC component

4. Pickup radial/tangential tilt adjustment

● Objective	To adjust the angle of the pickup relative to the disc so that the laser beams are shone straight down into the disc for the best read out of the RF signals.		
● Symptom when out of adjustment	Sound broken;some discs can be played but not others.		
● Measurement instrument connections	Connect the oscilloscope to CN421, Pin 1 (RF). [Settings] 20 mV/division 200 ns/division AC mode	● Player state	Test mode, play
		● Adjustment location	Pickup radial tilt adjustment screw and tangential tilt adjustment screw
		● Disc	For Twin-tray CD type, use the 12-cm disc. (YEDS-7 can not be used.) For Multi-play CD type, use the YEDS-7 test disc.

[Procedure]

1. Move the pickup to the outer edge of the disc with the TRACK FWD ▷▷| or TRACK REV |◁◁ key so that the radial/tangential tilt screws can be adjusted.

   Note: For Multi-play CD type, use the TRACK FWD ▷▷| or TRACK REV |◁◁ key to move the pickup to halfway across the disc (R=35 mm).

   Press the PROGRAM key after pressing the RANDOM key, the PLAY ▷ key, then the PAUSE ▯▯ key in that order to close the focus servo then the spindle servo and put the player into play mode.
2. First, adjust the radial tilt adjustment screw with an M 3-mm hexagonal wrench so that the eye pattern (the diamond shape at the center of the RF signal) can be seen the most clearly. For Multi-play CD type, use a Phillips screwdriver.
3. Next, adjust the tangential tilt adjustment screw with an M 3-mm hexagonal wrench so that the eye pattern (the diamond shape at the center of the RF signal) can be seen the most clearly (Figure 5). For Multi-play CD type, use a Phillips screwdriver.
4. Adjust the radial tilt adjustment screw and the tangential tilt adjustment screw again so that the eye pattern can be seen the most clearly. As necessary, adjust the two screws alternately so that the eye pattern can be seen the most clearly.

Note: Radial and tangential mean the directions relative to the disc shown in Figure 4.

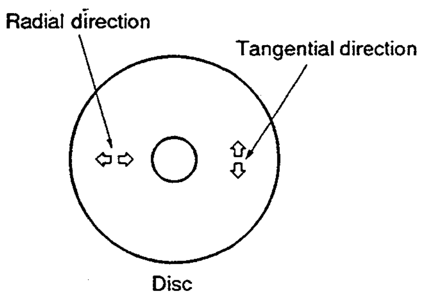
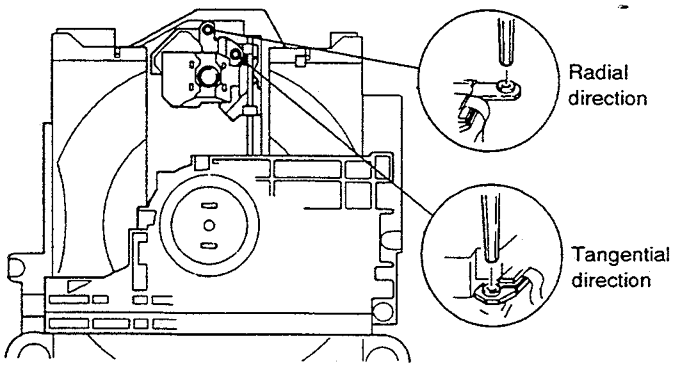
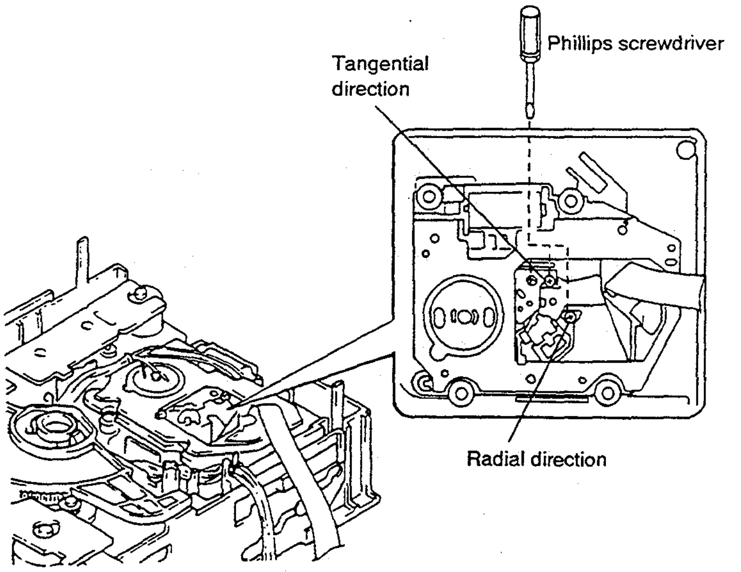


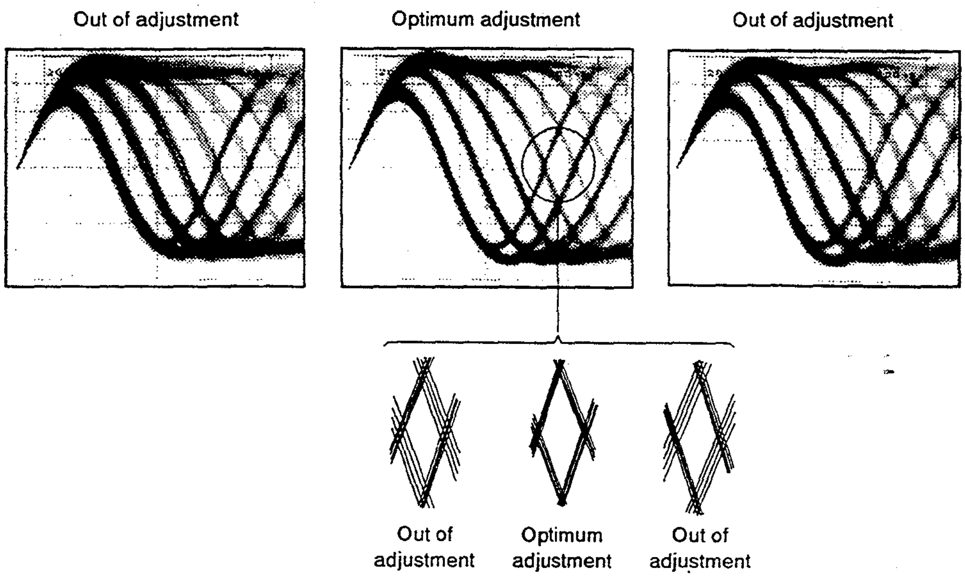
Figure 4



Twin-tray CD type adjustment locations


Phillips screwdriver
Tangential direction
Radial direction

Multi-play CD type adjustment locations


Out of adjustment

Optimum adjustment

Out of adjustment

Out of adjustment

Optimum adjustment

Out of adjustment

Figure 5 Eye pattern

5. RF level adjustment

● Objective	To optimize the playback RF signal amplitude		
● Symptom when out of adjustment	No play or no search		
● Measurement instrument connections	Connect the oscilloscope to CN421, Pin 1 (RF).	● Player state	Test mode, play
	[Settings] 50 mV/division 10 ms/division AC mode	● Adjustment location	VR1 (laser power)
		● Disc	YEDS-7

[Procedure]

1. Move the pickup to midway across the disc (R=35 mm) with the TRACK FWD ▷▷| or TRACK REV |◁◁ key, then press the PROGRAM key after pressing the RANDOM key, then the PLAY ▷ key in that order to close the respective servos and put the player into play mode.
2. Adjust VR1 (laser power) so that the RF signal amplitude is 1.2 Vp-p ± 0.1 V.

6. Focus servo loop gain adjustment

● Objective	To optimize the focus servo loop gain.		
● Symptom when out of adjustment	Playback does not start or focus actuator noisy.		
● Measurement instrument connections	See figure 6. [Settings] CH1 20 mV/division CH2 5 mV/division X-Y mode	● Player state ● Adjustment location ● Disc	Test mode, play VR452 (FCS. GAN) YEDS-7

[Procedure]

1. Set the AF generator output to 1.2 kHz and 1 Vp-p.
2. Press the TRACK FWD ▷▷| or TRACK REV |◁◁ key to move the pickup to halfway across the disc (R=35 mm), then press the PROGRAM key after pressing the RANDOM key, the PLAY ▷ key, then the PAUSE ▯▯ key in that order to close the corresponding servos and put the player into play mode.
3. Adjust VR452 (FCS. GAN) so that the Lissajous waveform is symmetrical about the X axis and the Y axis.

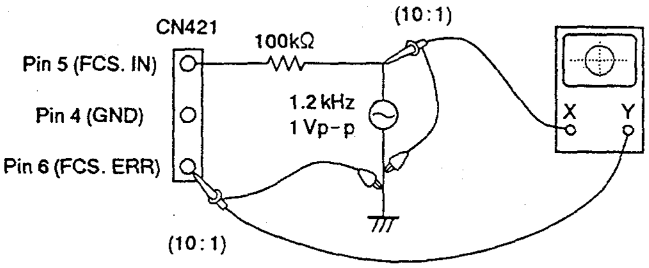
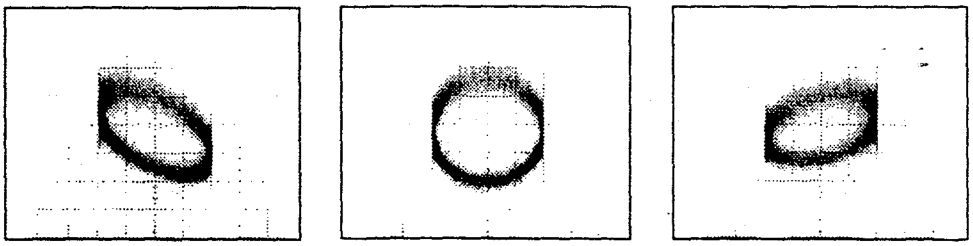


Figure 6

Focus Gain Adjustment



Higher gain Optimum gain Lower gain

7. Tracking servo loop gain adjustment

● Objective	To optimize the tracking servo loop gain.
● Symptom when out of adjustment	Playback does not start, during searches the actuator is noisy, or tracks are skipped.

● Measurement instrument connections	See Figure 7. [Settings] CH1 50 mV/division CH2 50 mV/division X-Y mode	● Player state	Test mode, play
		● Adjustment location	VR451 (TRK. GAN)
		● Disc	YEDS-7

[Procedure]

1. Set the AF generator output to 1.2 kHz and 2 Vp-p.
2. Press the TRACK FWD ▷▷| or TRACK REV |◁◁ key to move the pickup to halfway across the disc (R=35 mm), then press the PROGRAM key after pressing the RANDOM key, the PLAY ▷ key, then the PAUSE ▯▯ key in that order to close the corresponding servos and put the player into play mode.
3. Adjust VR451 (TRK. GAN) so that the Lissajous waveform is symmetrical about the X axis and the Y axis.

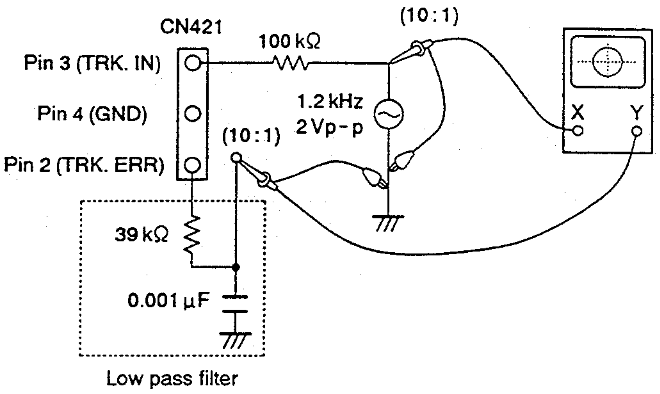
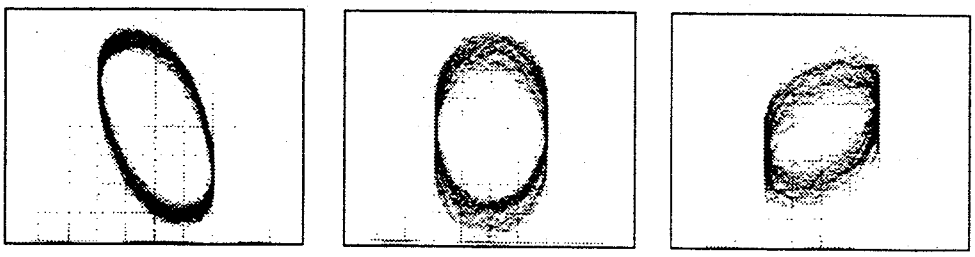


Figure 7

Tracking Gain Adjustment



Higher gain   Optimum gain   Lower gain

8. Focus error signal (focus S curve) verification

● Objective ● Symptom when out of adjustment	To judge whether the pickup is ok or not by observing the focus error signal. The pickup is judged from the amplitude of the tracking error signal (as discussed in the section on adjusting the tracking error balance) and the waveform for the focus error signal.		
● Measurement instrument connections	Connect the oscilloscope to CN421, Pin 6 (FCS. ERR). [Settings] 100 mV/division 5 ms/division DC mode	● Player state ● Adjustment location ● Disc	Test mode, stop None YEDS-7

[Procedure]

1. Connect CN421 Pin 5 to ground.
2. Mount the disc.
3. While watching the oscilloscope screen, press the PROGRAM key after pressing the RANDOM key and observe the waveform in Figure 8 for a moment. Verify that the amplitude is at least 2.5 Vp-p and that the positive and negative amplitude are about equal. Since the waveform is only output for a moment when the PROGRAM key is pressed, press this key over and over until you have checked the waveform.

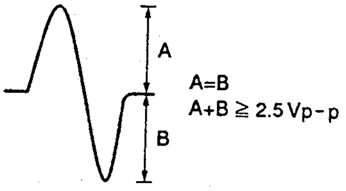


Figure 8

[Judging the pickup]

Do not judge the pickup until all the adjustment have been made correctly. In the following cases, there may be something wrong with the pickup.

1. The tracking error signal amplitude is extremely small (less than 2 Vp-p).
2. The focus error signal amplitude is extremely small (less than 2.5 Vp-p).
3. The positive and negative amplitudes of the focus error signal are extremely asymmetrical (2 : 1 ratio or more).
4. The RF signal is too small (less than 0.8 Vp-p) and even if VR1 is adjusted (laser power), the RF signal can not be brought up to the standard level.

8.2 TUNER SECTION ADJUSTMENT

- Adjustment points are as shown in Fig. 8-3.

8.2.1 FM tuner section

- Make the wire connections as shown in Fig. 8-1.
- Press the BAND key to set FM mode.

Step No.	FM SG (1kHz, ± 75kHz dev.)		XC-P410M, XC-P410T Reception Frequency Display	Adjustment	
	Frequency (MHz)	Level (dBμ)		Adjustment Location	Specification
1	98.0	60	98.0MHz	L305	Adjust so that the voltage between VREF and TM terminals in the CDTX unit becomes 0V ± 100mV.
2	98.0	60	98.0MHz	——	Confirm that the level of TX-L(CN411-10) and TX-R (CN411-8)are 0dBV ± 3.0 dB.
3	98.0	15	98.0MHz	VR302	Adjust so that the antenna input level becomes 15dBμ and TUNED IND. lights up.
4	98.0	12	98.0MHz	——	Confirm that the distortion factor of TX-L(CN411-10) is within 3%.
5	98.0	60(No modulation)	98.0MHz	VR301	Adjust the frequency of VCO terminal in the CDTX unit to 76kHz ± 200Hz. (*2)
6	98.0	80 (*1)	98.0MHz	——	Confirm that the distortion factors of TX-L(CN411-10) and TX-R (CN411-8) are less than 2.0%.
7	98.0	80 (*1)	98.0MHz	——	Confirm that the separations of TX-L(CN411-10) and TX-R(CN411-8) are more than 25dB.
8	98.0	Variable (*1)	98.0MHz	——	Confirm that the STEREO indicator lights up and goes out when the FM SG level is gradually increased.
9	98.0	80 (*1)	98.0MHz	——	Press the FM-MONO switch on the front panel and confirm that the mode becomes monaural.

(*1) Stereo Modulation: Main 1kHz L+R • ± 68.25kHz dev , Pilot 19kHz ± 6.75kHz dev.
(*2) Adjust at 76.2kHz ± 300Hz when it is within 2 minutes after power-on.

8.2.2 AM tuner section

- For the KU, KC, SD and YPW types, perform the adjustment in steps 4 through 6 and 8.
- Make the wire connections as shown in Fig. 8-2.
- Press the BAND key to set AM mode.
- For the HE and HB types, perform the adjustment in steps 4 through 8.
- For the HEWZI type, perform the adjustment in steps 1 through 6 and 8.

Step No.	AM SG (400Hz, 30% modulation)		XC-P410M, XC-P410T Reception Frequency Display	Adjustment	
	Frequency (kHz)	Level (dBμ)		Adjustment Location	Specification
1	-603 1395	30	603kHz 1395kHz	Ⓐ side of MW block TC301	Adjust the voltage of SM terminal to the maximum.
2	Repeat step 1 until voltage becomes the maximum.				
3	603	30	603kHz	F302	Adjust the voltage of SM terminal to the maximum.
4	(1000: KU only) 999	30	(1000kHz: KU only) 999kHz	VR303	Adjust so that the antenna input level becomes 30dBμ and TUNED IND. lights up.
5	(1000: KU only) 999	74	(1000kHz: KU only) 999kHz	——	Confirm that the levels of TX-L (CN411-10) and TX-R (CN411-8) are −14.5dBV ± 4dB.
6	(1000: KU only) 999	Variable	(1000kHz: KU only) 999kHz	——	Confirm that the antenna input level of − 10dB of the rated output becomes more than 24dBμV.
7	254	74	254kHz	——	Confirm that the antenna input level of − 10dB of the rated output becomes more than 30dBμV.
8	999(*3)	74	999kHz	——	Confirm that the output level is − 2dB $^{+1}_{-3}$ dB when the AM-NR switch position is changed from OFF to ON.

(*3) Adjust with AM SG modulated by 30% at 1kHz.

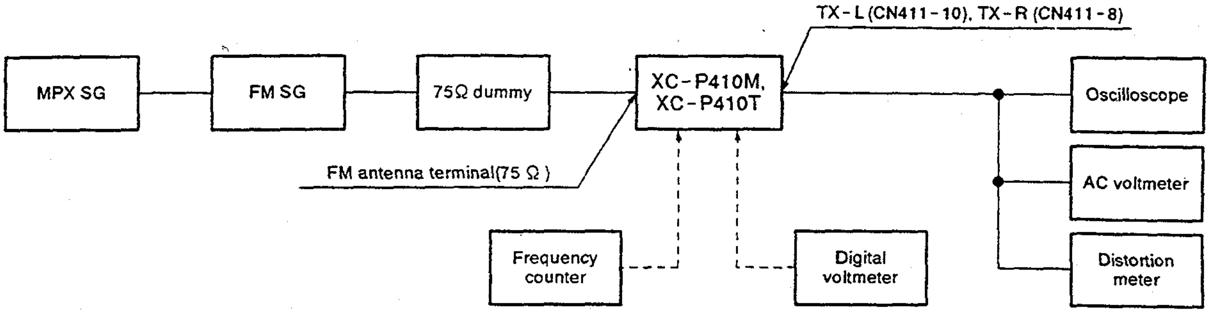

TX-L (CN411-10), TX-R (CN411-8)
MPX SG
FM SG
75Ω dummy
XC-P410M,
XC-P410T
Oscilloscope
AC voltmeter
Distortion meter
FM antenna terminal(75 Ω)
Frequency counter
Digital voltmeter

Fig. 8 – 1 FM adjustment connection diagram

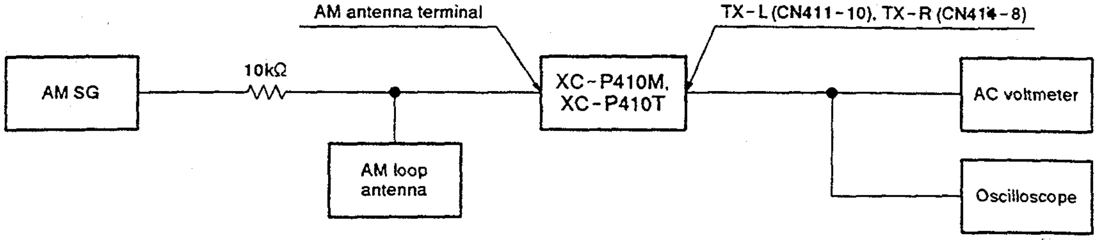

AM antenna terminal
TX-L (CN411-10), TX-R (CN411-8)
AM SG
10kΩ
XC-P410M,
XC-P410T
AC voltmeter
AM loop antenna
Oscilloscope

Fig. 8 – 2 AM adjustment connection diagram

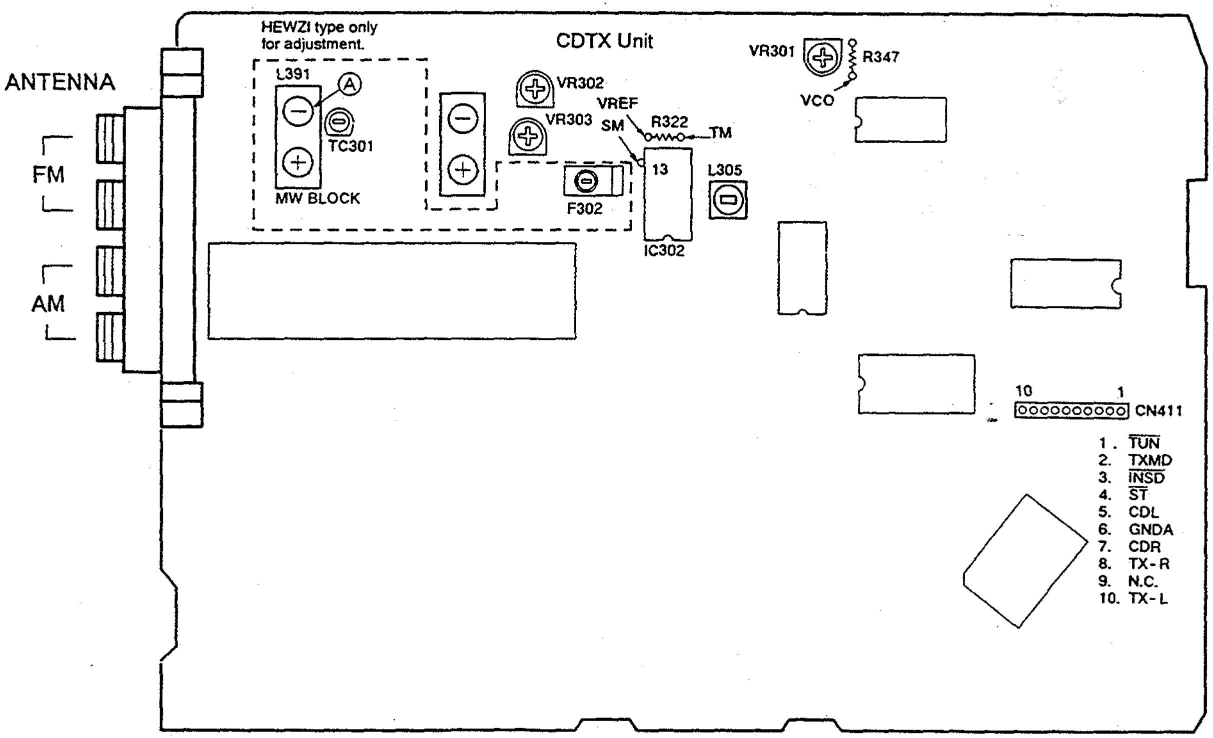

HEWZI type only for adjustment.
CDTX Unit
ANTENNA
FM
AM
L391
A
TC301
MW BLOCK
VR302
VR303
VREF
SM
R322
TM
F302
13
IC302
L305
VR301
R347
VCO
10
1
CN411
1. TUN
2. TXMD
3. INSD
4. ST
5. CDL
6. GNDA
7. CDR
8. TX-R
9. N.C.
10. TX-L

Fig. 8 – 3 Adjustment points

9. IC INFORMATION

■ PDB026C (IC601)

System control microcomputer

·The PDB026C has the following functions.

1. key input
2. FL indication
3. Controls of AMP, TUNER and CD sections.
4. DECK remote control signal transfer to the DECK microcomputer by the system bus communication.

● Pin Function

No.	Pin Name	I/O	Function		Active
1	VDD	–	+5V power supply		–
2	OSC2	O	Connect the ceramic oscillator (8.00MHz).		–
3	OSC1	I			–
4	Vss	–	Ground		–
5	XI	I	Not used (Ground)		–
6	XO	O	Not used (N.C.)		–
7	50/60	I	AC 50/60Hz input		–
8	P26		Not used (N.C.)		–
9	COM		Analog signal input from the expansion input port.		–
10	SELA	O	SELA, SELB, SELC : Port selection of the expansion input port (IC210) SELA, SELB : Serial data to the expansion output port SELA, SELB : Mode switching input at reset (SELA : H → PHONO, L → VIDEO SELB : H → MULTI, L → TWIN)		H
11	SELB				
12	SELC				
13	ECLK		Serial clock (To the expansion output port IC602 and IC211).		H
14	$\overline{\text{LDON}}$		Switching of the laser diode output (H : OFF, L : ON)		L
15	REMOTE	I	Remote control signal input		–
16	SCOR		Sub-code sync. S0 + S1		–
17	SBCK	O	system bus, serial clock	Connect to the DECK microcomputer (PD3177A or PD3183A)	H/L
18	SBDT		System bus, serial data		
19	SBER		System bus, communication permission/request		
20	MSNS_	I	Operating state signal input of IC403 (CXD2500Q).		–
21	$\overline{\text{RST}}$		Reset input of microcomputer.		L
22	CETX	O	Chip enable output to IC301 (LM7001).		H
23	CECD		Chip enable output to IC403 (CXD2500Q).		
24	$\overline{\text{CDRT}}$		Reset output to IC403.		L
25	SCLK		Serial clock output to IC301 and IC403.		H
26	SQSO	I	Serial data input from IC403.		
27	SO	O	Serial data output to IC301 and IC403.		
28	SYNC		Not used (N.C.)		–
29	CM	I	Not used (Ground)		–
30	MPWR	O	Switch the system power ON/OFF. (H : ON, L : OFF)		H

No.	Pin Name	I/O	Function	Active
31	CDPW	O	Switch the CD＋5V and CD－5V. (H : ON, L : OFF)	H
32	$\overline{\text{PAMT}}$		Switch the MUTE. (H : Release the MUTE, L : MUTE)	L
33	SPCT		Switch the speaker relay. (H : Speaker ON, L : Speaker OFF)	H
34	KIN3	I	Key scan matrix input	H
35	KIN2			
36	KIN1			
37	KIN0			
38	G0	O	FL grid output	H
39	G1			
40	G2			
41	G3			
42	G4			
43	G5			
44	G6			
45	G7			
46	G8			
47	G9			
48	G10			
49	S14	O	FL segment output S0 to S10 are key scan output.	H
50	S13			
51	S12			
52	S11			
53	S10			
54	S9			
55	S8			
56	S7			
57	S6			
58	S5			
59	S4			
60	S3			
61	S2			
62	S1			
63	S0			
64	Vpp	－	Apply FL－30V to internal pull-down resistor of the FL grid drive pin.	－

■ BU2040 (IC602)

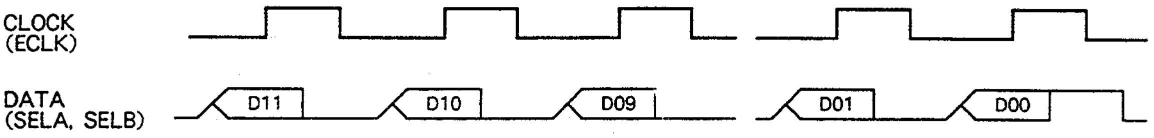
Expansion output

● Pin Function

No.	Pin Name	I/O	Function	Active
1	Vss	–	Ground	–
2	DATA	I	Serial data input to IC601 (PDB026C) pin 10 (SELA).	–
3	CLK		Serial clock input to IC601 pin 13 (ECLK).	–
4	$\overline{\text{ITX}}$ (Q0)	O	TUNER indicator control (H : light goes off, L : Light up)	L
5	$\overline{\text{ITAPE}}$ (Q1)		TAPE indicator control (H : light goes off, L : Light up)	
6	$\overline{\text{ICD}}$ (Q2)		CD indicator control (H : light goes off, L : Light up)	
7	$\overline{\text{IPHONO}}$ (Q3)		PHONO indicator control (H : light goes off, L : Light up)	
8	(Q4)		Not used (N.C.)	–
9	$\overline{\text{IMANU}}$ (Q5)		SFC MANUAL indicator control (H : light goes off, L : Light up)	L
10	$\overline{\text{IAUTO}}$ (Q6)		SFC PRESET indicator control (H : light goes off, L : Light up)	
11	(Q7)		Not used (N.C.)	–
12	(Q8)		Not used (N.C.)	–
13	(Q9)		Not used (N.C.)	–
14	VUP (Q10)		VOLUME motor control to IC603. CW : VUP (H), VDWN (L) CCW : VUP (L), VDWN (H) Stop : VUP (L), VDWN (L)	H/L
15	VDWN (Q11)			
16	VDD	–	+5V power supply	–

● Timing chart of the BU2040 (IC602 and IC211)

Perform the serial/parallel conversion of 12 bit.



- Perform the DATA (SELA or SELB) reading at the rising edge of the CLOCK (ECLK). If the DATA is "H" at the falling edge of the CLOCK, Contents of the shift register transfer to the latch circuit.

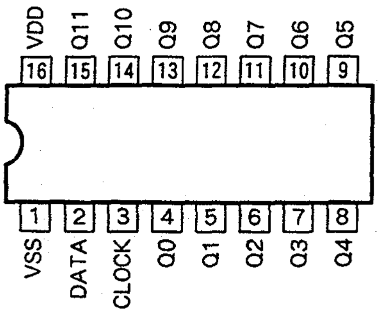
■ BU2040 (IC211)

Expansion output

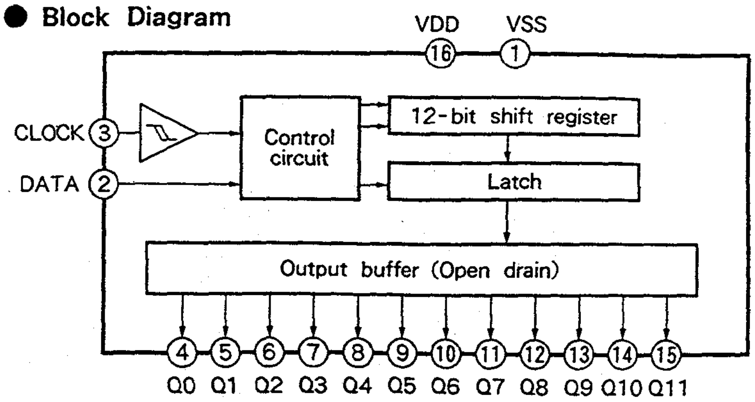
● Pin Function

No.	Pin Name	I/O	Function		Active
1	Vss	–	Ground		–
2	DATA	I	Serial data input to IC601 (PDB026C) pin 11 (SELB).		–
3	CLK		Serial clock input to IC601 pin 13 (ECLK).		–
4	CDMO (Q0)	O	CD mechanical drive control (loading and select motor control)		H/L
5	CDM1 (Q1)				
6	CDM2 (Q2)				
7	FINH (Q3)		Function MUTE	To IC203 (BU4052B)	H
8	FNCA (Q4)		Function selection		H/L
9	FNCB (Q5)				
10	P00 (Q6)		A. TREBLE EQ. selection	To IC208 (PA0049)	H/L
11	P01 (Q7)				
12	P10 (Q8)		P. BASS EQ. selection		
13	P11 (Q9)				
14	P20 (Q10)		Simulated stereo and stereo wide selections		
15	P21 (Q11)				
16	VDD	–	+5V power supply		–

- **Pin Arrangement**


VDD
Q11
Q10
Q9
Q8
Q7
Q6
Q5
16
15
14
13
12
11
10
9
1
2
3
4
5
6
7
8
VSS
DATA
CLOCK
Q0
Q1
Q2
Q3
Q4

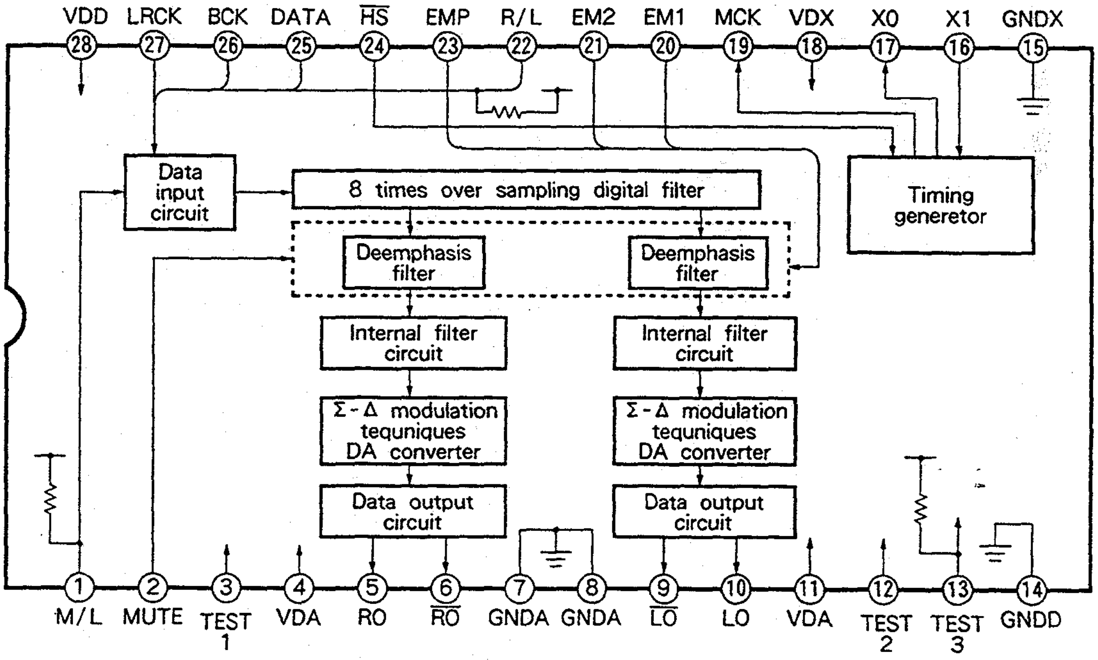
- **Block Diagram**


VDD
VSS
16
1
CLOCK 3
DATA 2
Control circuit
12-bit shift register
Latch
Output buffer (Open drain)
4
5
6
7
8
9
10
11
12
13
14
15
Q0 Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Q10 Q11

■TC9237N (IC501)

Σ-Δ modulation tequniqes DA converter with digital filter

- **Block Diagram**


VDD 28
LRCK 27
BCK 26
DATA 25
$\overline{HS}$ 24
EMP 23
R/L 22
EM2 21
EM1 20
MCK 19
VDX 18
X0 17
X1 16
GNDX 15
Data input circuit
8 times over sampling digital filter
Timing generetor
Deemphasis filter
Deemphasis filter
Internal filter circuit
Internal filter circuit
Σ-Δ modulation tequniques DA converter
Σ-Δ modulation tequniques DA converter
Data output circuit
Data output circuit
1 M/L
2 MUTE
3 TEST 1
4 VDA
5 RO
6 $\overline{RO}$
7 GNDA
8 GNDA
9 $\overline{LO}$
10 LO
11 VDA
12 TEST 2
13 TEST 3
14 GNDD

■ CXA1372Q (IC402)

Serevo IC

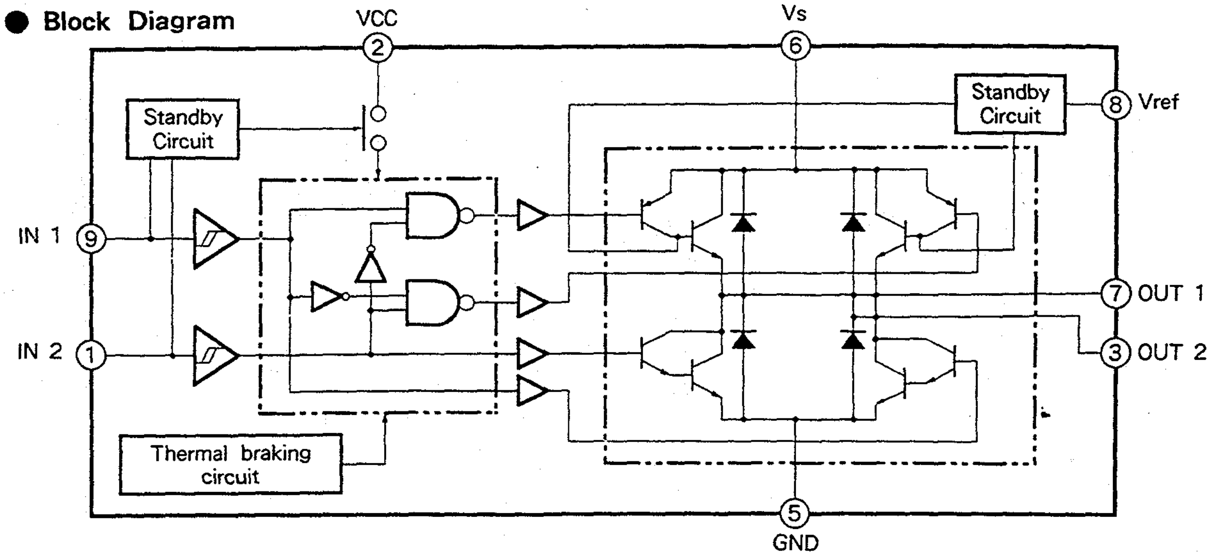
● Pin Functions

No.	Pin name	I/O	Function
1	VC	I	Center voltage input. (GND at two power supply. (Vcc+GND) /2 at single power supply)
2	FGD		Connect a capacitor between FGD (pin 8) and ATSC (pin 3) when high-pass gain of focus servo is dropped.
3	FS3		Switching the high-frequency gain of the focus servo by ON/OFF of FS3.
4	FLB		Time constant connect pin for boosts low of focus servo.
5	FEO	O	Focus drive output
6	FE-	I	Inverting input of focus amplifier
7	SRCH		Time constant connect pin for making the focus search waveform.
8	TGU		Time constant connect pin for switching the tracking high-frequency gain.
9	TG2		
10	AVCC	—	Analog +5V power supply
11	TAO	O	Tracking drive output
12	TA－	I	Inverting input of tracking amplifier.
13	SL＋		Non-inverting input of sled amplifier.
14	SLO	O	Sled drive output
15	SL-	I	Inverting input of sled amplifier
16	FSET		Pin for peak setting of phase compensation of the focus tracking.
17	ISET		Current flows for set the height of focus search, track jump and sled kick.
18	SSTOP		Pin for detect ON/OFF signal of the limit switch for detecting inner side of the disc.
19	AVEE	—	Analog －5V power supply
20	DIRC	I	Use at one track jump. (With 47kohms pull-up resistor)
21	LOCK		Sled protection circuit is worked at "L". (with 47kohms pull-up resistor)
22	CLK		Serial data transfer clock input from the CPU. (Pull-up resistor is nothing.)
23	XLT		Latch input from the CPU. (Pull-up resistor is nothing.)
24	DATA		Serial data input from the CPU. (Pull-up resistor is nothing.)
25	XRST	I	Reset input (reset at "L"). (Pull-up resistor is nothing.)
26	C.OUT	O	Signal output for count the track
27	SENS		FZC, AS, TZC and SSTOP outputs from the CPU.
28	D GND	—	Digital GND
29	MIRR	O	MIRR comparator output. (DC voltage : connect 10kohms load resistor)
30	DFCT		DEFECT comparator output. (DC voltage : connect 10kohms load resistor)
31	ASY	I	Auto asymmetrical control input
32	EFM	O	EFM comparator output. (DC voltage : connect 10kohms load resistor)
33	FOK		Focus OK comparator output. (DC voltage : connect 10kohms load resistor)
34	CC1	I	DEFECT bottom hold output
35	CC2	O	Input pin so that DEFECT bottom hold output signal is input by coupling capacitor.
36	DVCC	—	Digital +5V power supply
37	CB	I	Capacitor connect pin for the DEFECT bottom hold.
38	CP		Capacitor connect pin for the MIRR hold. Non-inverting input of the MIRR comparator.
39	RFI		Input terminal so that RF summing amplifier output signal is input by coupling capacitor.
40	RFO	O	RF summing amplifier output. Check point of the eye pattern.
41	DVEE	—	Digital －5V power supply
42	TZC	I	Tracking zerocross comparator input.
43	TE	I	Tracking error input
44	TDFCT		Capacitor connect pin for time constant at the defect.
45	ATSC		Window comparator input for ATSC detection.
46	FZC		Focus and zerocross comparator input.
47	FE		Focus error input.
48	FDFCT		Capacitor connect pin for time-constant at the defect.

■ TA8409S (IC603)

Full bridge driver for DC motor

● Block Diagram


VCC
②
Vs
⑥
Standby Circuit
Standby Circuit
⑧ Vref
IN 1 ⑨
IN 2 ①
⑦ OUT 1
③ OUT 2
Thermal braking circuit
⑤
GND

● Truth Table

INPUT		OUTPUT		MODE
IN1	IN2	OUT1	OUT2	MOTOR
0	0	∞	∞	STOP
1	0	H	L	CW/CCW
0	1	L	H	CCW/CW
1	1	L	L	BRAKE

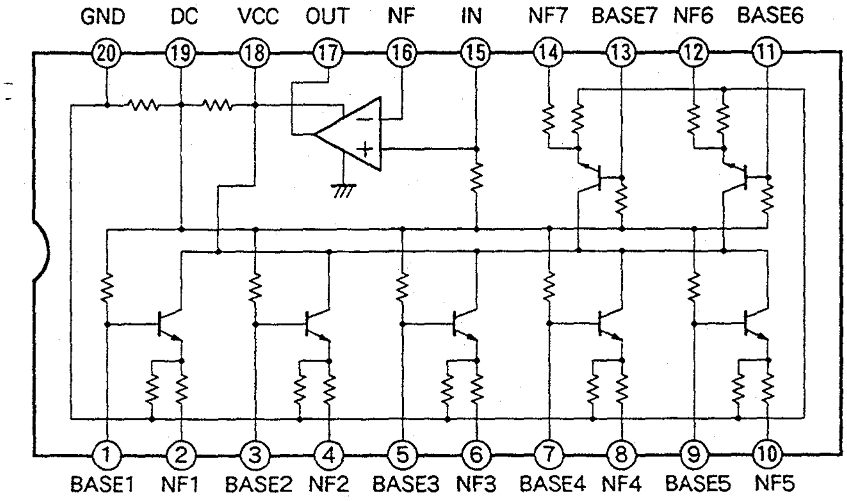
∞ : High Impedance

Note : "H" active input

■ LA3607 (IC209)

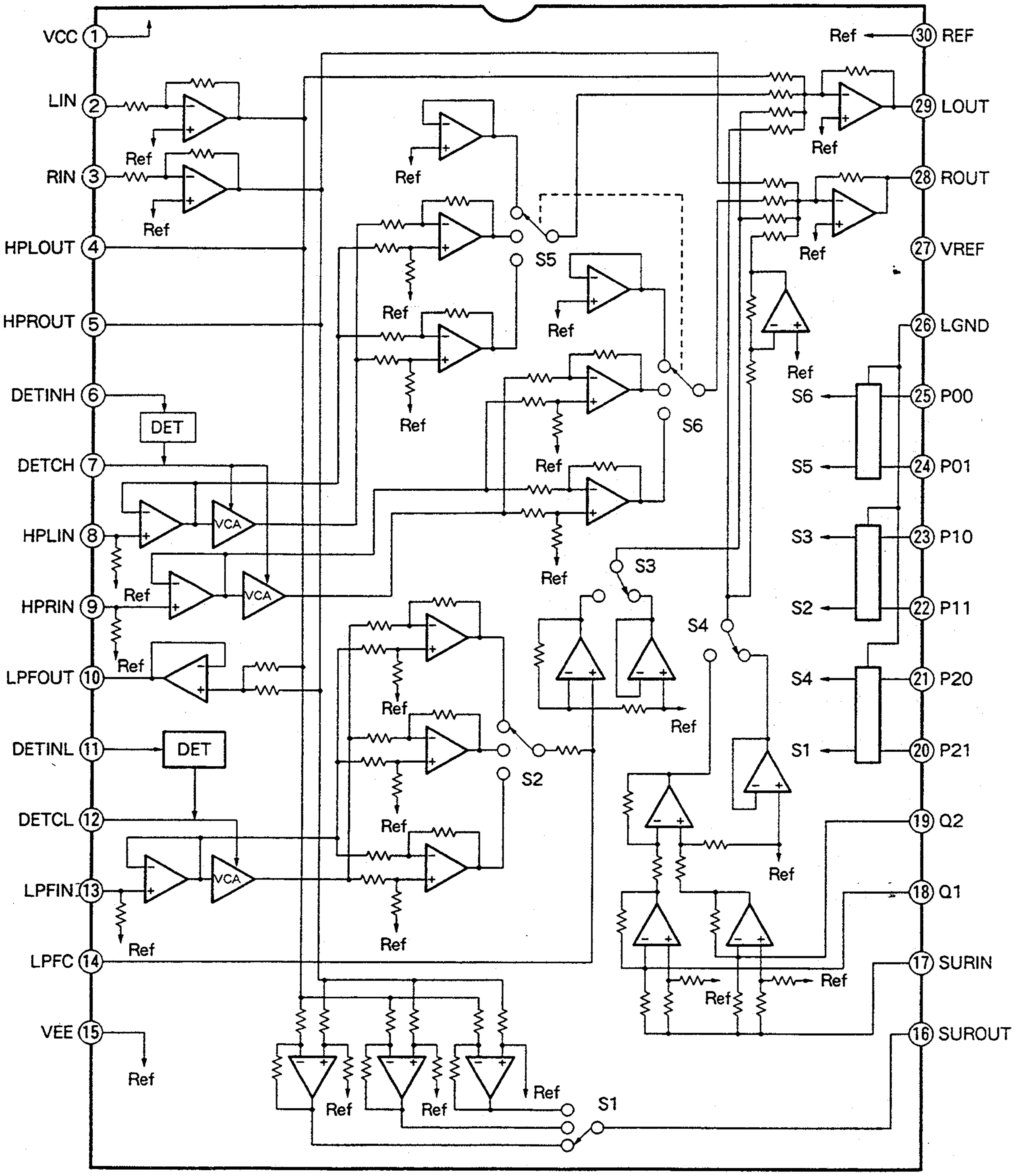
7-Bands graphic equalizer

● Block Diagram


GND
DC
VCC
OUT
NF
IN
NF7
BASE7
NF6
BASE6
⑳
⑲
⑱
⑰
⑯
⑮
⑭
⑬
⑫
⑪
①
②
③
④
⑤
⑥
⑦
⑧
⑨
⑩
BASE1
NF1
BASE2
NF2
BASE3
NF3
BASE4
NF4
BASE5
NF5

■PA0049 (IC208)

- **Block Diagram**


VCC ①
LIN ②
RIN ③
HPLOUT ④
HPROUT ⑤
DETINH ⑥
DETCH ⑦
HPLIN ⑧
HPRIN ⑨
LPFOUT ⑩
DETINL ⑪
DETCL ⑫
LPFIN ⑬
LPFC ⑭
VEE ⑮
Ref
DET
VCA
S1
S2
S3
S4
S5
S6
㉚ REF
㉙ LOUT
㉘ ROUT
㉗ VREF
㉖ LGND
㉕ P00
㉔ P01
㉓ P10
㉒ P11
㉑ P20
⑳ P21
⑲ Q2
⑱ Q1
⑰ SURIN
⑯ SUROUT

● Pin Function

No.	Pin Name	Function	No.	Pin Name	Function
1	VCC	Power supply	16	SUROUT	Output for surround level adjustment
2	LIN	L ch input	17	SURIN	Input for surround level adjustment
3	RIN	R ch input	18	Q1	Filter pin 1 for surround
4	HPLOUT	Output for L ch high-pass filter	19	Q2	Filter pin 2 for surround
5	HPROUT	Output for R ch high-pass filter	20	P21	Mode switching 1
6	DETINH	High-pass detector input	21	P20	Mode switching 2
7	DETCH	Connect a capacitor for high-pass detector.	22	P11	Mode switching 3
8	HPLIN	L ch high-pass input	23	P10	Mode switching 4
9	HPRIN	R ch high-pass input	24	P01	Mode switching 5
10	LPFOUT	Output for low-pass filter	25	P00	Mode switching 6
11	DETINL	Low-pass detector input	26	LGND	Reference voltage for logic
12	DETCL	Connect a capacitor for low-pass detector.	27	VREF	Internal reference power supply
13	LPFIN	Low-pass filter input	28	ROUT	R ch output
14	LPFC	Connect a capacitor for noise decrease.	29	LOUT	L ch output
15	VEE	Power supply	30	REF	Reference voltage input

● Mechanical SW Operation of the XC-P410M (Multi-play CD type)

- Logic of MZS1, MZS2, DCNT, DCHM, LPS1 and LPS2 signals.

	$\overline{\text{MZS1}}$ signal
No magazine	H
Magazine exist	L

	$\overline{\text{MZS2}}$ signal
Single magazine	H
Six magazines	L

	$\overline{\text{DCNT}}$ signal
Loading possible position	L
Others	H

	$\overline{\text{DCHM}}$ signal
Home	L
Others	H

	$\overline{\text{LPS1}}$ signal	$\overline{\text{LPS2}}$ signal
EJECT	H	L
HOME	H	H
LOADING	L	H
CLAMP	L	L

- Logic of INSD signal

	$\overline{\text{INSD}}$ signal
INSIDE	L
Others	H

● Mechanical SW Operation of the XC-P410T (Twin-tray CD type)

- Logic of TRY1, TSEL and TRY2 signals

	Tray		Microcomputer input signal		
	Tray 1	Tray 2	$\overline{\text{TRY1}}$	$\overline{\text{TSEL}}$	$\overline{\text{TRY2}}$
Mechanical Position	OPEN	PLAY	L	H	L
	OPEN/CLOSE	PLAY	H	H	L
	CLOSE	PLAY	H	L	L
	CHANGE	CHANGE	H	L	H
	CHANGE	CHANGE	H	H	H
	PLAY	CLOSE	L	H	H
	PLAY	CLOSE/OPEN	L	L	H
	PLAY	OPEN	L	L	L

- Logic of INSD signal

	$\overline{\text{INSD}}$ signal
INSIDE	L
Others	H

9.1 CPU INTERFACE OF THE TUNER SECTION

The tuner control in this unit is performed transferring the serial data from the system control microcomputer PDB026C (IC601) to the PLL frequency synthesizer LM7001 (IC301).
The serial data is 24 bit construction and is transferred in sequence from the LSB of data, sending DATA, CL and CE signals.
Frequency synthesizer LM7001, CL is effectived when CE is "H", and receives the DATA when CL is set to "H" from "L", and 24 bit data which is transferred renew to the internal data when CE is set to "L" from "H".
Connections of the serial interface and the timing chart are shown in Fig.9-1 and Fig.9-2.

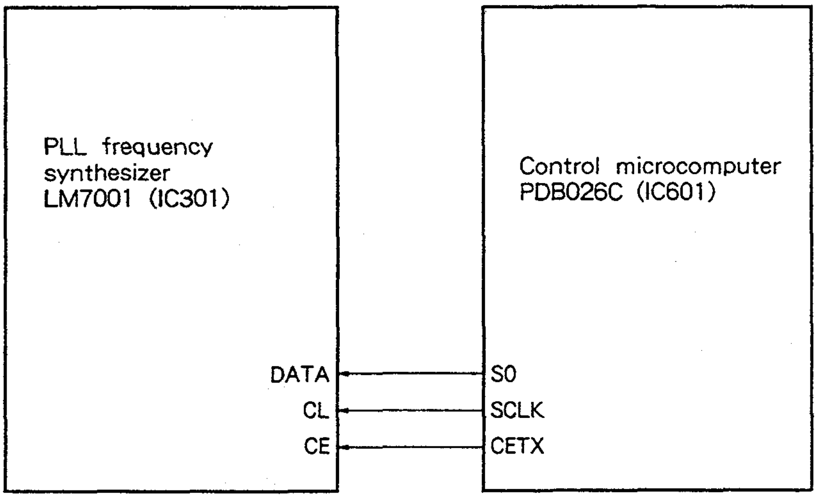

PLL frequency
synthesizer
LM7001 (IC301)
Control microcomputer
PDB026C (IC601)
DATA
CL
CE
SO
SCLK
CETX

Fig.9-1

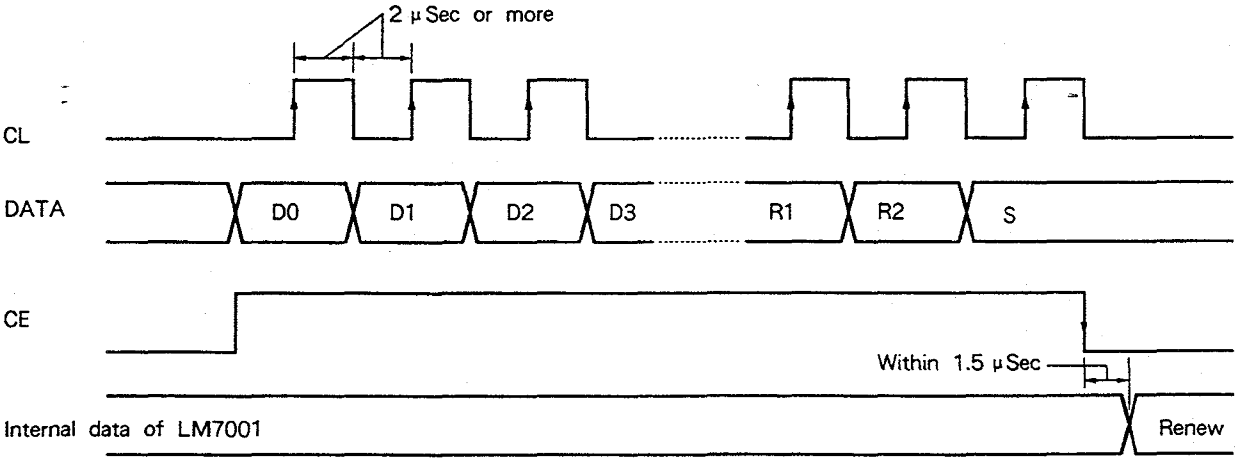

2 μSec or more
CL
DATA
D0
D1
D2
D3
R1
R2
S
CE
Within 1.5 μSec
Internal data of LM7001
Renew

Fig.9-2

9.2 CPU INTERFACE OF THE CD SECTION

Servo control in this unit is performed transferring the serial data from the CPU (system control micro-computer) PDB026C (IC601) to the DSP CXD2500Q (IC403).
The serial data is transfered to the SSP CXA1372Q (IC402) via CXD2500Q. The connections of serial interface is shown in Fig. 9-3.
The serial data consists of 4-through 16-bit data and 4-bit address and is transferred in sequence from the LSB of data, sending DATA, CLK and XLAT signals. Also, a SENS signal is supplied to CPU from SSP and DSP, showing the various servo statuses. The timing chart of serial interface is shown in Fig. 9-4.

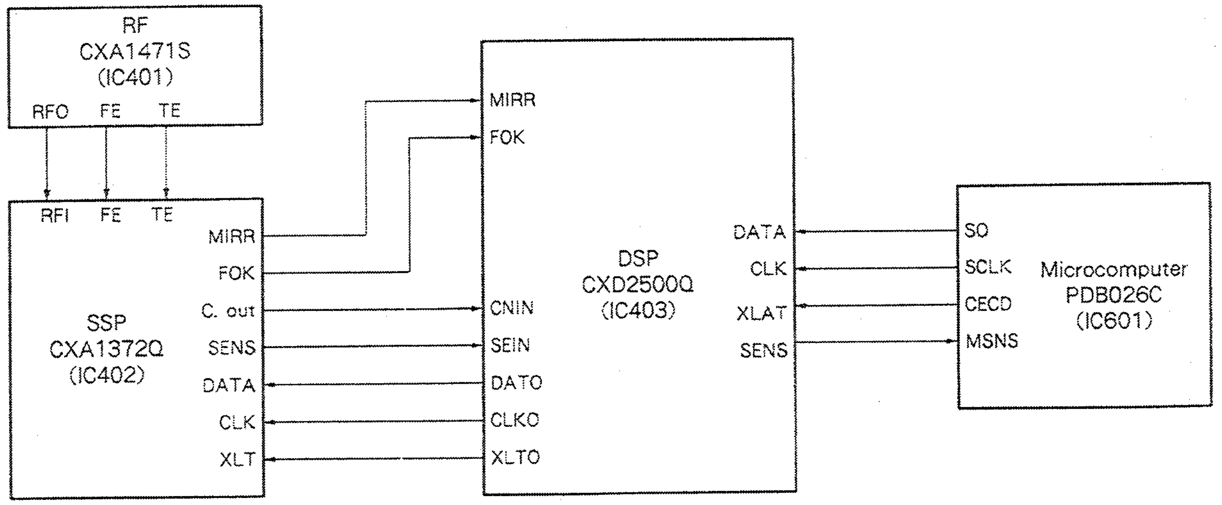

RF
CXA1471S
(IC401)
RFO
FE
TE
RFI
FE
TE
MIRR
FOK
C. out
SENS
DATA
CLK
XLT
SSP
CXA1372Q
(IC402)
MIRR
FOK
CNIN
SEIN
DATO
CLKO
XLTO
DSP
CXD2500Q
(IC403)
DATA
CLK
XLAT
SENS
SO
SCLK
CECD
MSNS
Microcomputer
PDB026C
(IC601)

Fig. 9 – 3

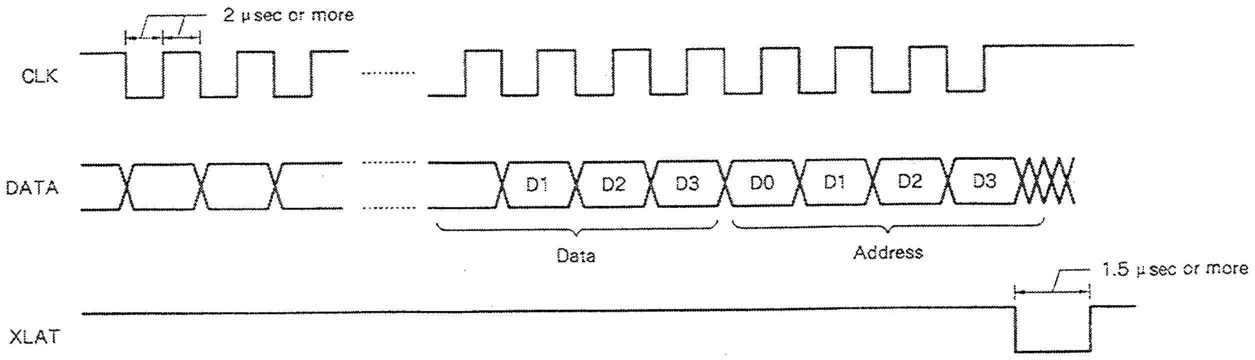
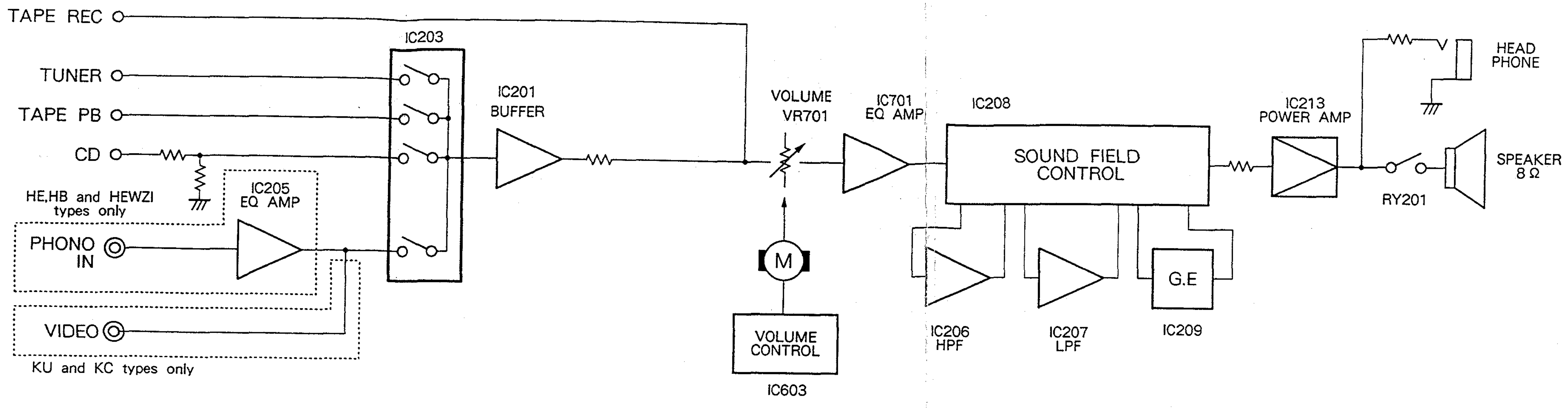

2 μsec or more
CLK
DATA
D1
D2
D3
D0
D1
D2
D3
Data
Address
1.5 μsec or more
XLAT

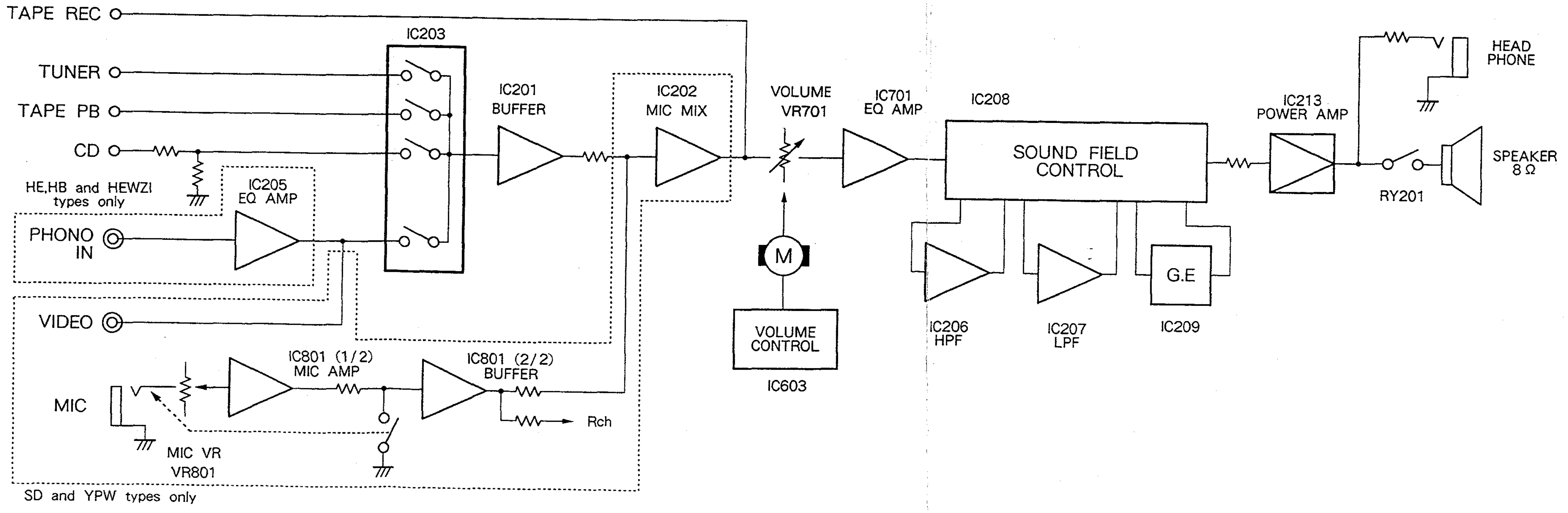
Fig. 9 – 4

10. BLOCK DIAGRAM

● XC-P410M TYPE (L ch)

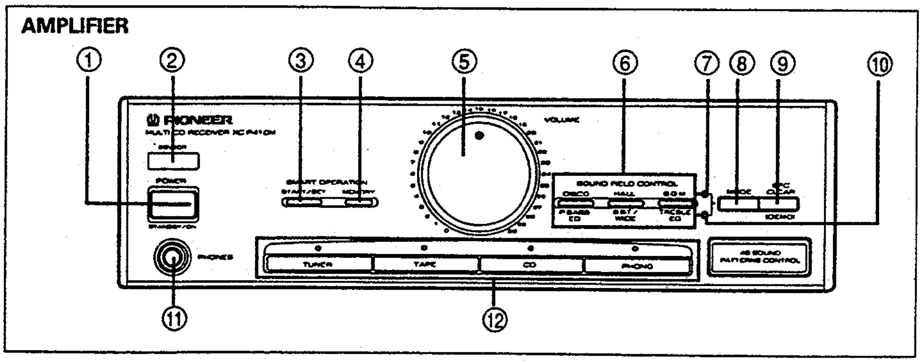

TAPE REC
IC203
TUNER
TAPE PB
CD
HE,HB and HEWZI types only
IC205 EQ AMP
PHONO IN
VIDEO
KU and KC types only
IC201 BUFFER
VOLUME VR701
M
VOLUME CONTROL
IC603
IC701 EQ AMP
IC208
SOUND FIELD CONTROL
IC206 HPF
IC207 LPF
G.E
IC209
IC213 POWER AMP
HEAD PHONE
SPEAKER 8 Ω
RY201

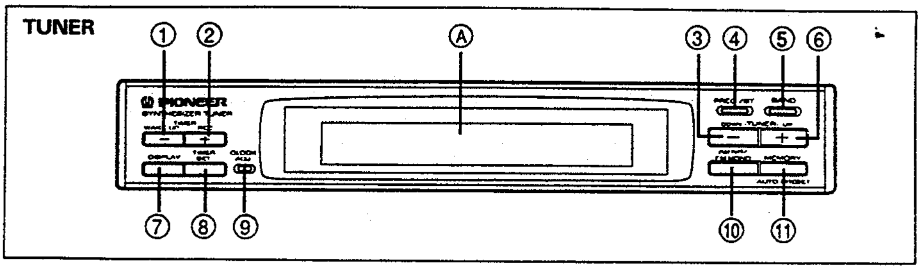
● XC-P410T TYPE (L ch)


TAPE REC
IC203
TUNER
TAPE PB
CD
HE,HB and HEWZI types only
IC205 EQ AMP
PHONO IN
VIDEO
MIC
MIC VR VR801
IC801 (1/2) MIC AMP
IC801 (2/2) BUFFER
Rch
SD and YPW types only
IC201 BUFFER
IC202 MIC MIX
VOLUME VR701
M
VOLUME CONTROL
IC603
IC701 EQ AMP
IC208
SOUND FIELD CONTROL
IC206 HPF
IC207 LPF
G.E
IC209
IC213 POWER AMP
HEAD PHONE
SPEAKER 8 Ω
RY201

11. PANEL FACILITIES

11.1 XC-P410M





AMPLIFIER

① **POWER STANDBY/ON switch**
Press to turn the power on and off (STANDBY).

② **Remote sensor window (SENSOR)**

③ **SMART OPERATION START/SET button**

④ **SMART OPERATION MEMORY button**

⑤ **VOLUME control**

⑥ **SOUND FIELD CONTROL buttons (DISCO/P.BASS EQ, HALL/S.ST./WIDE, B.G.M./TREBLE EQ)**

⑦ **Preset mode indicator**

⑧ **MODE button**

⑨ **SFC CLEAR/DEMO button**

⑩ **Manual mode indicator**

⑪ **Headphones jack (PHONES)**

⑫ **Function buttons/indicators**
European and U.K. models: (TUNER/TAPE/CD/PHONO)
U.S. and Canadian models: (TUNER/TAPE/CD/VIDEO)

Auto Function

This model is equipped with "Auto Function" operation, so when the switch for CD PLAY, RANDOM, HI-LITE SCAN, DISC NUMBER, PLAY (tape), BAND or TUNER UP/DOWN (+/–) is pressed, the function switches automatically. Use the PHONO function button to select the component connected to the PHONO jacks, since Auto Function is not effective for this.

NOTE:

The function cannot be switched during recording. (Auto Function does not operate either.)

TUNER

① **TIMER WAKE UP/– button**

② **TIMER REC/+ button**

Ⓐ **Display**

③ **TUNER DOWN/– button**

④ **FREQ./ST. button**

⑤ **BAND button**

⑥ **TUNER UP/+ button**

⑦ **DISPLAY button**

⑧ **TIMER SET button**

⑨ **CLOCK ADJ. button**

⑩ **AM-NR/FM-MONO button**

⑪ **MEMORY/AUTO PRESET button**

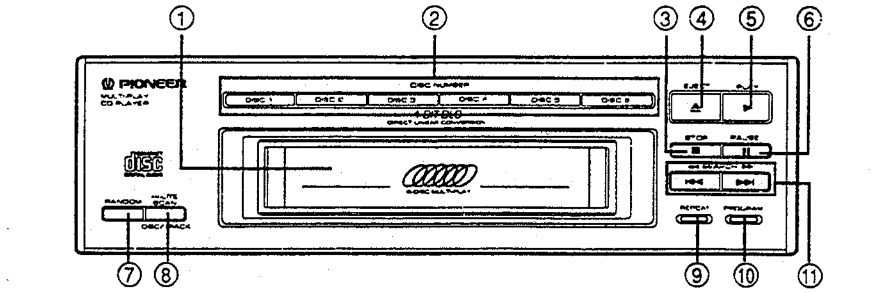
Demo Function

To enter the demo mode, press DEMO when power is off. The unit performs the SMART OPERATION (page 12) and automatically switches the preset setting of the SOUND FIELD CONTROL. During demo mode, function buttons and PLAY button can be used, so you can enjoy desired program source. For example, to listen to CD with demo function, load a CD into the player before carried out demo function.

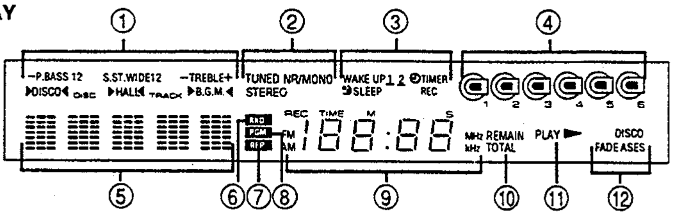
To cancel demo mode:

Press POWER STANDBY/ON switch, MODE button, SFC CLEAR/DEMO button or one of the SOUND FIELD CONTROL buttons.

MULTI-PLAY CD PLAYER


①
②
③
④
⑤
⑥
PIONEER
DISC NUMBER
DISC 1
DISC 2
DISC 3
DISC 4
DISC 5
DISC 6
1-BIT DLC
EJECT
PLAY
STOP
PAUSE
SEARCH
RANDOM
HI-LITE SCAN
DISC/TRACK
REPEAT
PROGRAM
⑦
⑧
⑨
⑩
⑪

Ⓐ DISPLAY


①
②
③
④
-P.BASS 12
S.ST.WIDE12
-TREBLE+
▶DISCO◀
DISC
▶HALL◀
TRACK
▶B.G.M.◀
TUNED NR/MONO
STEREO
WAKE UP 1 2
TIMER
SLEEP
REC
1 2 3 4 5 6
REC TIME M S
RND
PGM
RPT
FM
AM
188:88
MHz REMAIN
kHz TOTAL
PLAY ▶
DISCO
FADE ASES
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫

MULTI-PLAY CD PLAYER

① Magazine insertion slot

② DISC NUMBER buttons (DISC 1 - DISC 6)

③ STOP button (■)

④ EJECT button (▲)

⑤ PLAY button (▶)

⑥ PAUSE button (❚❚)

⑦ RANDOM button

⑧ HI-LITE SCAN DISC/TRACK button

⑨ REPEAT button

⑩ PROGRAM button

⑪ SEARCH buttons (◀◀/▶▶, ⏮/⏭)

Ⓐ DISPLAY

① Sound field control indicators
Display SOUND FIELD CONTROL settings.

② Tuner indicators
Indicate the tuning mode.

③ Timer indicators
Display timer settings.

④ Disc number indicators

⑤ Function display
Displays the selected function. In the TUNER mode, this displays the station No., and when playing a CD it displays the disc No. and track No.

⑥ Random indicator

⑦ Repeat indicator

⑧ Program indicator

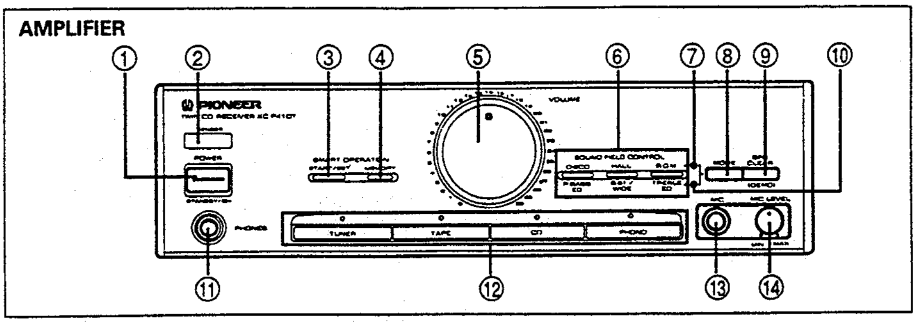
⑨ Frequency/Time display
In TUNER mode, frequency is displayed. In any other mode it displays the time.

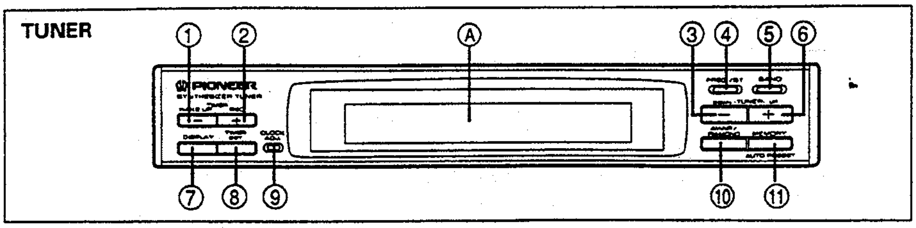
⑩ REMAIN/TOTAL indicator
In CD mode, "REMAIN" shows the remaining play time and "TOTAL" shows the total play time.

⑪ PLAY ▶ indicator

⑫ ASES (Auto Synchro Editing System) indicators
Lights when A.S.E.S. is performed.

11.2 XC-P410T





AMPLIFIER

① **POWER STANDBY/ON switch**
Press to turn the power on and off (STANDBY).

② **Remote sensor window (SENSOR)**

③ **SMART OPERATION START/SET button**

④ **SMART OPERATION MEMORY button**

⑤ **VOLUME control**

⑥ **SOUND FIELD CONTROL buttons (DISCO/P.BASS EQ, HALL/S.ST./WIDE, B.G.M./TREBLE EQ)**

⑦ **Preset mode indicator**

⑧ **MODE button**

⑨ **SFC CLEAR/DEMO button**

⑩ **Manual mode indicator**

⑪ **Headphones jack (PHONES)**

⑫ **Function buttons/indicators**
European and U.K. models: (TUNER/TAPE/CD/PHONO)
Except for European and U.K. models: (TUNER/TAPE/CD/VIDEO)

⑬ **Microphone jack (MIC) (Except for European and U.K. models)**

⑭ **MIC LEVEL control (Except for European and U.K. models)**

Auto Function
This model is equipped with "Auto Function" operation, so when the switch for CD PLAY, RANDOM, HI-LITE SCAN, DISC SELECT, PLAY (tape), BAND or TUNER UP/DOWN (+/ –) is pressed, the function switches automatically. Use the VIDEO function button to select the component connected to the VIDEO jacks, since Auto Function is not effective for this.

NOTE:
The function cannot be switched during recording. (Auto Function does not operate either.)

TUNER

① **TIMER WAKE UP/– button**

② **TIMER REC/+ button**

Ⓐ **Display**

③ **TUNER DOWN/– button**

④ **FREQ./ST. button**

⑤ **BAND button**

⑥ **TUNER UP/+ button**

⑦ **DISPLAY button**

⑧ **TIMER SET button**

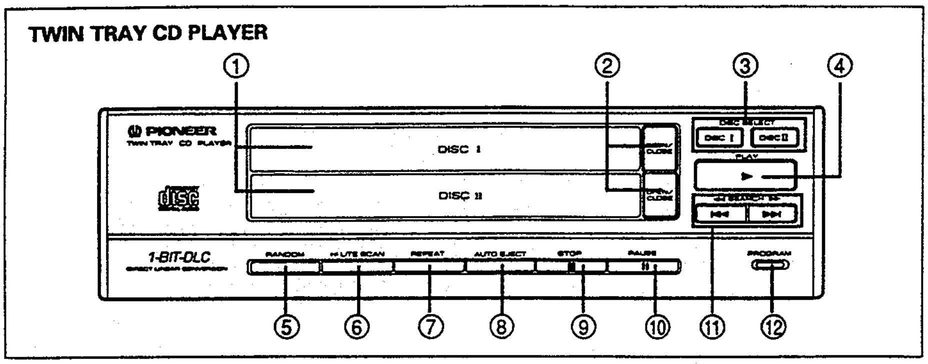
⑨ **CLOCK ADJ. button**

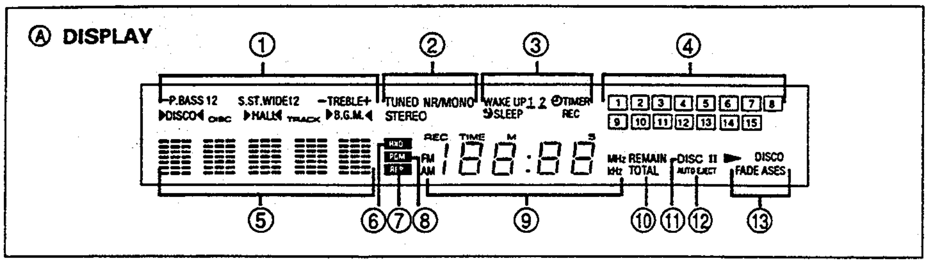
⑩ **AM-NR/FM-MONO button**

⑪ **MEMORY/AUTO PRESET button**

Demo Function
To enter the demo mode, press DEMO when power is off. The unit performs the SMART OPERATION (page 12) and automatically switches the preset setting of the SOUND FIELD CONTROL. During demo mode, function buttons and PLAY button can be used, so you can enjoy desired program source. For example, to listen to CD with demo function, load a CD into the player before carried out demo function.

To cancel demo mode:
Press POWER STANDBY/ON switch, MODE button, SFC CLEAR/DEMO button or one of the SOUND FIELD CONTROL buttons.


TWIN TRAY CD PLAYER
①
②
③
④
PIONEER
TWIN TRAY CD PLAYER
DISC I
DISC II
OPEN/CLOSE
DISC SELECT
DISC I
DISC II
PLAY
SEARCH
1-BIT-DLC
RANDOM
HI-LITE SCAN
REPEAT
AUTO EJECT
STOP
PAUSE
PROGRAM
⑤
⑥
⑦
⑧
⑨
⑩
⑪
⑫


Ⓐ DISPLAY
①
②
③
④
P.BASS 12
S.ST.WIDE12
TREBLE+
DISCO
DISC
HALL
TRACK
B.G.M.
TUNED
NR/MONO
STEREO
WAKE UP 1 2
TIMER
SLEEP
REC
1 2 3 4 5 6 7 8
9 10 11 12 13 14 15
REC
TIME
M
S
FM
AM
188:88
MHz
kHz
REMAIN
TOTAL
DISC II
AUTO EJECT
DISCO
FADE ASES
⑤
⑥⑦⑧
⑨
⑩⑪⑫
⑬

TWIN TRAY CD PLAYER

① Disc tray (DISC I, DISC II)
② OPEN/CLOSE buttons
③ DISC SELECT buttons (DISC I, DISC II)

④ PLAY button (▶)
⑤ RANDOM button
⑥ HI-LITE SCAN button
⑦ REPEAT button
⑧ AUTO EJECT button
⑨ STOP button (■)
⑩ PAUSE button (▮▮)
⑪ SEARCH buttons (◀◀/▶▶, ⏮/⏭)

⑫ PROGRAM button

Ⓐ DISPLAY

① Sound field control indicators
Display SOUND FIELD CONTROL settings.

② Tuner indicators
Indicate the tuning mode.

③ Timer indicators
Display timer settings.

④ Music calendar

⑤ Function display
Displays the selected function. In the TUNER mode, this displays the station No., and when playing a CD it displays the disc No. and track No.

⑥ Random indicator

⑦ Repeat indicator

⑧ Program indicator

⑨ Frequency/Time display
In TUNER mode, frequency is displayed. In any other mode it displays the time.

⑩ REMAIN/TOTAL indicator
In CD mode, "REMAIN" shows the remaining play time and "TOTAL" shows the total play time.

⑪ DISC I/DISC II play ▶ indicator

⑫ AUTO EJECT indicator

⑬ ASES (Auto Synchro Editing System) indicators.
Lights when A.S.E.S. is performed.

12. SPECIFICATIONS
12.2 XC-P410M

STEREO MULTI CD RECEIVER:XC-P410M

Amplifier section

[U.S. model]

Continuous Average Power Output is 25 Watts* per channel, min., at 8 ohms from 40 Hertz to 20,000 Hertz with no more than 0.9 % total harmonic distortion.**

[Canadian model]

Continuous Average Power Output is 22 Watts* per channel, min., at 8 ohms from 40 Hertz to 20,000 Hertz with no more than 0.9 % total harmonic distortion.**

Music Power (DIN)	41 W + 41 W
Continuous Power Output (DIN)	25 W + 25W (1 kHz, T.H.D. 1%, 8 Ω)
Continuous Power Output (RMS)	
U.S. model	32W + 32 W
European, U.K. and Canadian models	31 W + 31 W (1 kHz, T.H.D. 5%, 8 Ω)
Frequency Response (VIDEO)**	10 Hz to 50 kHz ±3dB
Signal-to-Noise Ratio (DIN, Continuous Power/50 mW)	PHONO: 70 dB/60 dB
Total Harmonic Distortion (1 kHz, 12.5 W, 8 ohms)	No more than 0.2%
Signal-to-Noise Ratio (IHF, short circuited, A network) VIDEO	70 dB
Input (Sensitivity/Impedance)	VIDEO: 150 mV/50 kΩ

FM/AM tuner section

FM Tuner Section

Frequency Range	87.5 MHz to 108 MHz
Usable Sensitivity	Mono: 12.8 dBf, IHF (1.2 µV/75 ohms)
Sensitivity (DIN)	Mono S/N 26 dB: 1.0 µV/75 Ω Stereo S/N 46 dB: 50.0 µV/75 Ω
Signal-to-Noise Ratio (IHF, 85 dBf Input)	Mono: 77 dB Stereo: 73 dB
Signal-to-Noise Ratio (DIN)	Mono: 66 dB Stereo: 60 dB
Distortion	Stereo: 0.5 % (1kHz)
Antenna Input	75 ohms unbalanced

MW (AM) Tuner Section

Frequency Range	
With 10 kHz step	530 kHz to 1,700 kHz
With 9 kHz step	531 kHz to 1,602 kHz
Sensitivity (IHF, Loop antenna)	350 µV/m
Antenna	Loop Antenna

LW Tuner Section (For LW equipped models only)

Frequency Range	153 kHz to 281 kHz
Sensitivity (IHF, Loop antenna)	1500 µV/m
Antenna	Loop Antenna

CD Section

Type	Compact disc digital audio system
Frequency Response	2 Hz to 20 kHz
Signal to Noise ratio	96 dB or more (EIAJ)
Dynamic Range	90 dB or more (EIAJ)
Wow and Flutter	Limit of measurement (±0.001% W.PEAK) or less (EIAJ)

General

Operating temperature	+5°C to +35°C (+41°F to +95°F)

Miscellaneous

Power Requirements	
U.K. model	a.c. 240 Volts ~, 50/60 Hz
European model	a.c. 220 Volts ~, 50/60 Hz
U.S. and Canadian models	AC 120V, 60 Hz
Power Consumption	
European and U.K. models	160 W
U.S. and Canadian models	80 W
Dimensions	
U.S. and Canadian models	260 (W) x 194 (H) x 309 (D) mm 10-4/16 (W) x 7-10/16 (H) x 12-3/16 (D) in
European and U.K. models	260 (W) x 194 (H) x 312 (D) mm 10-4/16 (W) x 7-10/16 (H) x 12-5/16 (D) in
Weight (without package)	5.8 kg (2 lbs 10 oz)

Accessories

Operating Instructions	1
Remote Control Unit	1
Dry Cell Batteries (AAA/R03)	2
FM T-type Antenna	1
AM Loop Antenna	1
6-compact disc magazine	1

NOTE:

Specifications and design subject to possible modification without notice due to improvements.

The Magazine Type Multi-Play CD Players with mark and the Magazines with the same mark are compatible for 5-inch (12cm) discs.

---

* Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier.

** Measured by audio spectrum analyzer.

12.2 XC-P410T

STEREO TWIN CD RECEIVER:XC-P410T

Amplifier section

Continuous Average Power Output is 22 Watts* per channel, min., at 8 ohms from 40 Hertz to 20,000 Hertz with no more than 0.9 % total harmonic distortion.**

Music Power (DIN)	41 W + 41 W
Continuous Power Output (DIN)	25 W + 25W (1 kHz, T.H.D. 1%, 8 Ω)
Continuous Power Output (RMS)	31 W + 31 W (1 kHz, T.H.D. 5%, 8 Ω)
Peak Music Power	210 W
Frequency Response (VIDEO)**	10 Hz to 50 kHz ±3dB
Signal-to-Noise Ratio (DIN, Continuous Power/50 mW)	PHONO: 70 dB/60 dB
Total Harmonic Distortion (1 kHz, 12.5 W, 8 ohms)	No more than 0.2%
Signal-to-Noise Ratio (IHF, short circuited, A network)	
VIDEO	70 dB
Input (Sensitivity/Impedance)	VIDEO: 150 mV/50 kΩ

FM/AM tuner section

FM Tuner Section

Frequency Range	87.5 MHz to 108 MHz
Usable Sensitivity (1.2 µV/75 ohms)	Mono: 12.8 dBf, IHF
Sensitivity (DIN)	Mono S/N 26 dB: 1.0 µV/75 Ω Stereo S/N 46 dB: 50.0 µV/75 Ω
Signal-to-Noise Ratio (IHF, 85 dBf Input)	Mono: 77 dB Stereo: 73 dB
Signal-to-Noise Ratio (DIN)	Mono: 66 dB Stereo: 60 dB
Distortion	Stereo: 0.5 % (1kHz)
Antenna Input	75 ohms unbalanced

MW (AM) Tuner Section

Frequency Range	
With 10 kHz step	530 kHz to 1,700 kHz
With 9 kHz step	531 kHz to 1,602 kHz
Sensitivity (IHF, Loop antenna)	350 µV/m
Antenna	Loop Antenna

LW Tuner Section (For LW equipped models only)

Frequency Range	153 kHz to 281 kHz
Sensitivity (IHF, Loop antenna)	1500 µV/m
Antenna	Loop Antenna

CD Section

Type	Compact disc digital audio system
Frequency Response	2 Hz to 20 kHz
Signal to Noise ratio	96 dB or more (EIAJ)
Dynamic Range	90 dB or more (EIAJ)
Wow and Flutter	Limit of measurement (±0.001% W.PEAK) or less (EIAJ)

General

Operating temperature	+5°C to +35°C (+41°F to +95°F)

Miscellaneous

Power Requirements	
European model	a.c. 220 Volts ~, 50/60 Hz
U.K. and Australian model	a.c. 240 Volts ~, 50/60 Hz
Multi-voltage models	AC 110V/120V – 127V/220V/240V (switchable), 50/60 Hz
Power Consumption	160 W
Dimensions	
Except for European and U.K. models	260 (W) x 194 (H) x 309 (D) mm 10-4/16 (W) x 7-10/16 (H) x 12-3/16 (D) in
European and U.K. models	260 (W) x 194 (H) x 312 (D) mm 10-4/16 (W) x 7-10/16 (H) x 12-5/16 (D) in
Weight (without package)	5.4 kg (2 lbs 7 oz)

Accessories

Operating Instructions	1
Remote Control Unit	1
Dry Cell Batteries (AAA/R03)	2
FM T-type Antenna	1
AM Loop Antenna	1

NOTE:

Specifications and design subject to possible modification without notice due to improvements.

* Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier.

** Measured by audio spectrum analyzer.